CD Micro System

MC156/21M/22/25/34

Service
Service
Service

Service Manual

COMPACT disc DIGITAL AUDIO

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Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

CLASS 1
LASER PRODUCT

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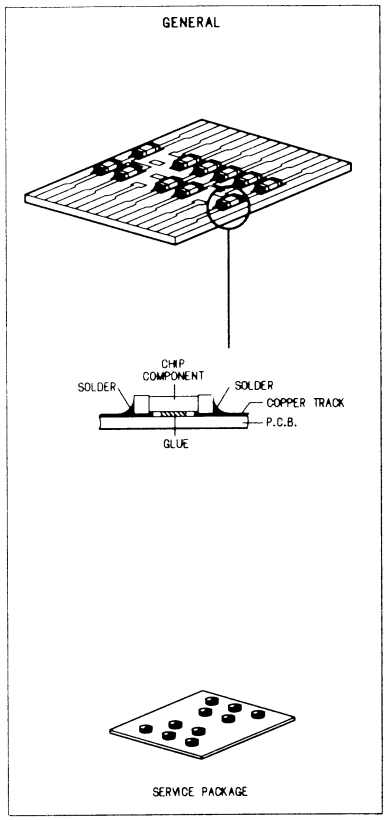
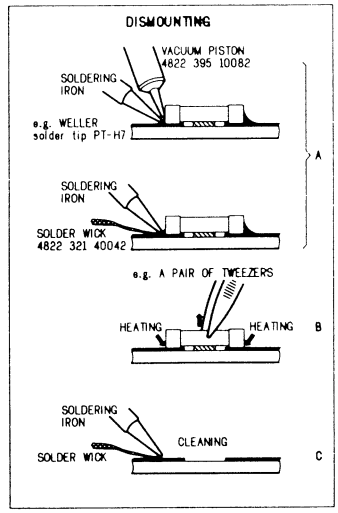
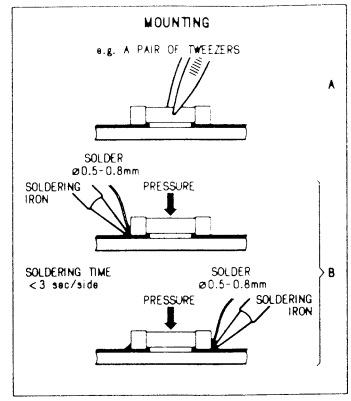
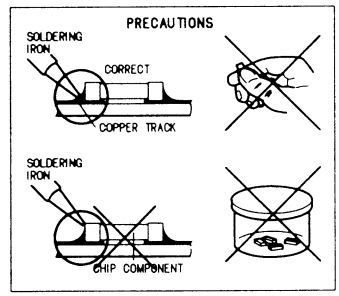
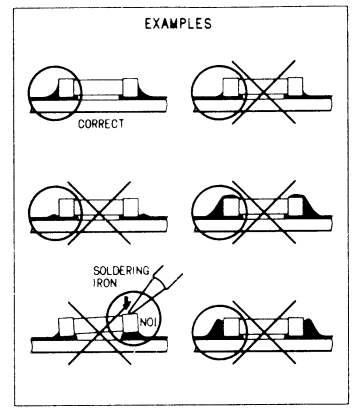
HANDLING CHIP COMPONENTS











(GB) WARNING

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools at this potential.

(F) ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévite pourrait être considérablement écourtée par le fait qu'aucune précaution nést prise à leur manipulation.
Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfileer le bracelet serti d'une résistance de sécurité.
Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

Anti-static table mat large 1200x650x1.25mm
small 600x650x1.25mm
Anti-static wrist band
Connection box (1MOhm)
Extendible cable (to connect wrist band to conn. box)
Connecting cable (to connect table mat to conn. box)
Earth cable (to connect any product to mat or box)
Complete kit ESD3 (combining all above products)
Wristband tester

(GB)

After servicing and before returning the set to customer perform a leakage current measurement test from all exposed metal parts to earth ground, to assure no shock hazard exists.
The leakage current must not exceed 0.5mA.

(F)

"Pour votre sécurite, ces documents doivent être utilisés par des spécialistes agrées, seuls habilités à réparer votre appareil en panne".

ESD

(D) WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren.
Sorgen Sie dafür, dab sie im Reparaturfall über ein Puls-armband mit Widerstand mit dem Massepotential des Gerätes verbunden sind.
Halten Sie Bauteile und Hilfsmittel ebenfalls auf diesem Potential.

4822 466 10953
4822 466 10958
4822 395 10223
4822 320 11307
4822 320 11305
4822 320 11306
4822 320 11308
4822 310 10671
4822 344 13999

(GB)

Safety regulations require that the set be restored to its originial condition and that parts which are identical with those specified be used.
Safety components are marked by those symbol. ⚠

(S) Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

(DK) Advarsel !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsaettelse for stråling.

(SF) Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle lasersäteilylle Älä katso säteeseen!

(NL) WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen vermindern. Zorg ervoor dat u tijdens reparatie via een polsband met wererstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

(I) AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparationi occorre quindi essere collegato allo stesso potenziale che quello della massa delápparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

(GB) WARNING

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(F) ATTENTION

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

(D) WARNUNG

Bei jeder Reparatur sind die geltenden Sicherheitsvor-schriften zu beachten. Der Originalzustand des Gerätes darf nicht verändert werden. Für Reparaturen sind Original-ersatzteile zu verwenden.

(NL) WAARSCHUWING

Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast

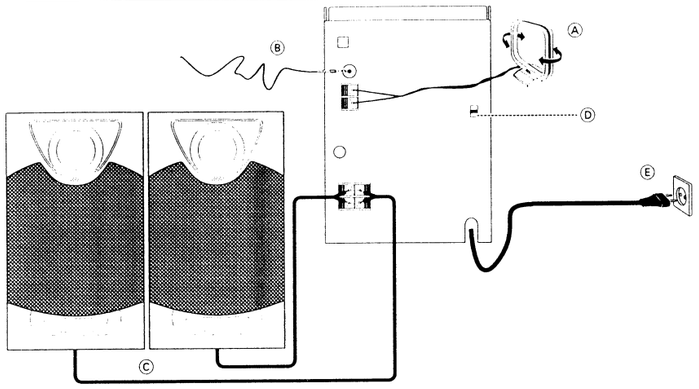
(I) AVVERTIMENTO

Le norme di sicurezza estigono che l'apparecchio venga rimesso nelle condizioni orginali e che siano utilizzati i pezzi di ricambiago identici a quelli specificati.

CONNECTIONS AND CONTROLS

PREPARATIONS

Rear Connection



Ⓐ AM Antenna Connection

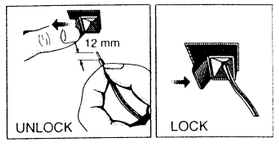
Connect the supplied loop antenna to the AM AERIAL terminal. Adjust the position of the AM loop antenna for the best reception.

Ⓑ FM Wire Antenna Connection

Connect the supplied FM wire antenna to the FM 75 Ω terminal. Adjust the position of the FM antenna for the best reception.

Outdoor Antenna
For better FM stereo reception connect an outdoor FM antenna to the FM AERIAL 75 Ω terminal using a 75 Ω antenna wire.

Ⓒ Speaker Connections



- Connect the right speaker to terminal **R**, with the red (white/black) wire to + and the black wire to −.
- Connect the left speaker to terminal **L**, with the red (white/black) wire to + and the black wire to −
- Clip the stripped portion of the wire as shown

Ⓓ Adjusting the Operating Voltage

(for specific versions only)

Before connecting the AC power cord to a wall outlet, make sure that the voltage selector at the rear of the system is set to the local power line voltage. If not, reset the selector before connecting to the wall outlet.

Ⓔ AC Power Supply

After all other connections have been made, connect the AC power cord to the wall outlet.

REMOTE CONTROL

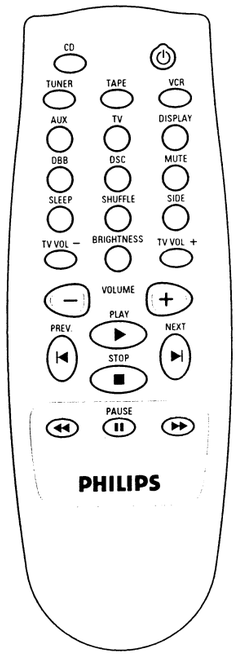
Remote Control Functions

- First select the source you wish to control by pressing one of the source selection keys on the remote control (e.g. CD, TUNER or TAPE).
- Then select the desired function (PLAY, NEXT, etc.).

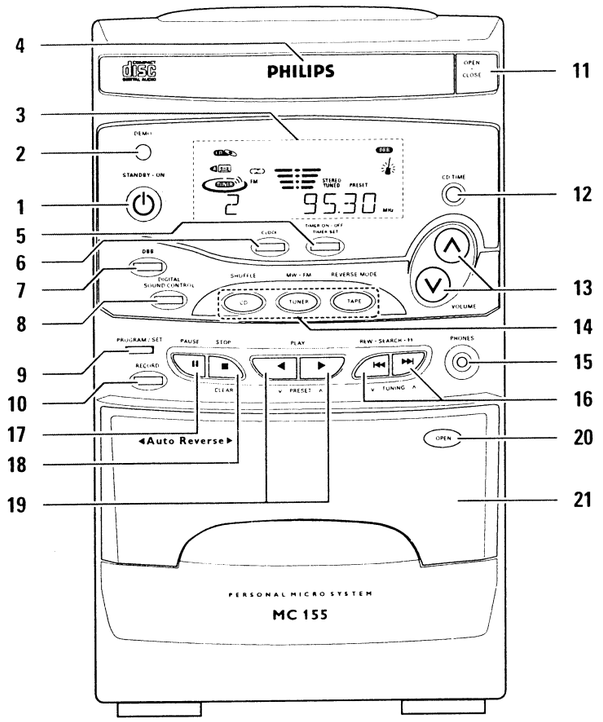
Note:
– *Whenever a remote control button is pressed, the red LED on the set will flicker. This indicates the remote control signal is received by the set.*

⏻ ..... to switch the unit to standby mode.
CD ..... to select CD mode.
TUNER ..... to select TUNER mode.
TAPE ..... to select TAPE mode.
VCR ..... to select VCR mode.
AUX ..... not functional for this model.
TV ..... to select TV mode.
DISPLAY ..... to display CD time.
DBB ..... to switch on or off dynamic bass boost.
DSC ..... to select digital sound control: OPTIMAL, JAZZ, CLASSIC, ROCK or POP.
MUTE ..... to switch off the sound temporarily
SLEEP ..... to switch the set to standby mode automatically at a preset time.
SHUFFLE ..... to play CD tracks at random.
SIDE ..... to select side A or B in TAPE mode.
BRIGHTNESS .... not functional for this model.
TV VOLUME +/− ...to adjust the TV (RC 5 code) volume.
VOLUME +/− ...to adjust the volume.
PLAY ▶ ..... to start playback in CD or TAPE mode.
STOP ■ ..... to stop playback in CD or TAPE mode.

⏮ PREV. / NEXT ⏭
for TUNER ..... to select a lower/higher tuner preset station.
for CD ..... to select previous/next CD track.
for TV/VCR .... to select previous/next channel.
PAUSE ⏸ ..... to interrupt play in CD or TAPE mode.
◀◀ / ▶▶
for TUNER ..... to select a lower/higher frequency.
for CD ..... to search for a particular passage.
for TAPE ..... to fast rewind/forward the cassette.



CONTROLS



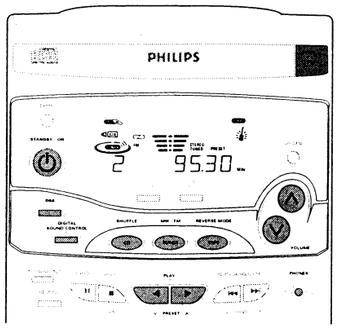
Front View

1 STANDBY•ON
– to switch the set on or to standby mode.
2 DEMO
– to display the various features offered by the system.
3 DISPLAY
– to display the current setting of the set.
4 CD TRAY
– to place CD in here.
5 TIMER ON•OFF / TIMER SET
– to set the timer and to switch the timer on or off.
6 CLOCK
– to display and set the clock.
7 DYNAMIC BASS BOOST (DBB)
– to switch on bass boost to enhance bass response or to switch off bass boost.
8 DIGITAL SOUND CONTROL (DSC)
– to select the desired sound effect: OPTIMAL, JAZZ, CLASSIC, ROCK and POP.
9 PROGRAM / SET
– to program CD tracks in CD mode.
– to program preset stations manually.
10 RECORD
– to start recording on tape deck.
11 OPEN•CLOSE
– to open or close the CD tray.
12 CD TIME
for CD ..... to display the current play time, current track remain play time and total remaining play time, in turn.
13 VOLUME
– to adjust the volume level.

14 SOURCE .. to select the following:
CD/SHUFFLE
– to switch to CD mode. When in CD mode; to play all the tracks in random order.
TUNER/BAND
– to switch to TUNER mode. When in tuner mode; to select the waveband: FM or MW
TAPE/REVERSE MODE
– to switch to TAPE mode. When in TAPE mode, to select the different play mode.
15 PHONES
– headphones jack.
16 ⏮◀◀ SEARCH ▶▶⏭
for CD ..... to skip to the beginning of the current or previous/next track or to search backward/forward.
⏮◀◀ ▶▶⏭ (∨ TUNING ∧)
for TUNER ..... to tune to a lower or higher radio frequency.
(REW) ⏮◀◀ ▶▶⏭ (FF)
for TAPE ..... to rewind or fast forward the cassette.
17 PAUSE ⏸
for CD ..... to interrupt or resume CD play.
for TAPE ..... to interrupt playback or recording.
18 STOP ■ (CLEAR)
for CD ..... to stop CD play or to clear a program.
for TAPE ..... to stop playback or recording.
19 PLAY ▶
for CD ..... to start playback.
◀ ▶ (∨ PRESET ∧)
for TUNER ..... to select a preset radio station in memory.
◀ PLAY ▶
for TAPE ..... to select and play tape side A or B.
20 OPEN
– to open the cassette compartment

21 CASSETTE DECK

OPERATING THE SYSTEM



Important:
Before you begin operating the system, complete the preparation procedures. The set is in the standby mode when the mains plug is connected to the wall socket and "0:00" flashes on the display.

Switching the system ON

- Press **STANDBY•ON**, **CD**, **TUNER** or **TAPE** on the set (or **CD**, **TUNER** or **TAPE** on the remote control).

You can also switch on the system directly by pressing the **PRESET** ∧ or ∨ for TUNER mode; **OPEN•CLOSE** button or **PLAY** ▶ for CD mode or **PLAY** ◀ ▶ for TAPE mode.

Switching the system to standby mode

- Press **STANDBY•ON** again (or ⏻ on the remote control).

Selecting the Sound Source

- Press either **CD**, **TUNER** or **TAPE** on the set or on the remote control.
  → The display indicates the selected sound source.

Volume Adjustment

Press **VOLUME** ∧ or ∨ (or press **VOLUME** + or − on the remote control) to increase or decrease the sound level.

For Personal Listening
Connect the headphones to the **PHONES** socket at the front of the set. The speakers will be muted.

Digital Sound Control (DSC)

- Press **DSC** on the set or remote control to select the desired special sound effect : **JAZZ** (🎷), **CLASSIC** (🚗), **ROCK** (🎸), **POP** (🎤) or **OPTIMAL**.
  → The respective sound flag lights up except for OPTIMAL setting.
  → The DSC button changes to green except for OPTIMAL setting.

Dynamic Bass Boost (DBB)

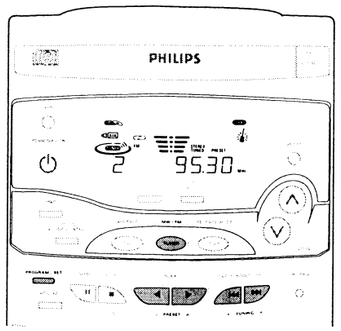
- Press **DBB** on the set or remote control to enhance the bass response.
  → The DBB flag (DBB) lights up and the DBB button changes to red colour.

Demo mode

The system has a demonstration mode that shows the various features offered by the system.

- Press **DEMO** to switch on the demonstration.
  → The display will show "HELLO WELCOME TO THE AUDIO WORLD" and followed by the various features.
- Press **DEMO** again or **STANDBY•ON** to stop the demonstration mode.
  → "GOODBYE" is displayed and the set returns to standby mode.

TUNER



Tuning to radio stations

1 Press **TUNER** on the set or remote control to select TUNER mode.
2 Press **TUNER** (MW•FM) (or **TUNER** on the remote control) again to select the desired waveband: MW or FM.
3 Press **TUNING** ∧ or ∨ (◀◀ or ▶▶ on the remote control) for more than one second.
  → The display will search the frequency until a station with sufficient signal strength is found.
  → The STEREO TUNED or TUNED flag will lights up.
- Repeat this procedure until the desired station is reached.
- To tune to a weak station, briefly press **TUNING** ∧ or ∨ (◀◀ or ▶▶ on the remote control) until the display shows the right frequency and/or when the best reception has been obtained.

Storing Preset Stations

You can store up to 20 stations in the FM Band and 10 stations in the AM Band in the memory. When a preset station is selected, the preset number appears next to the frequency on the display.

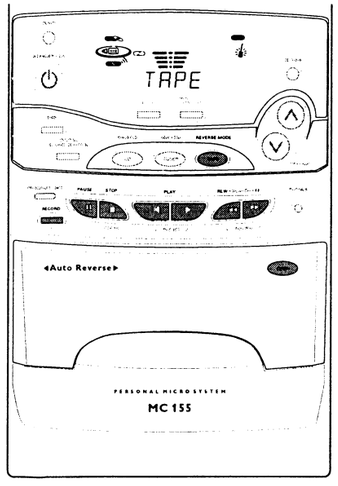
You can only do manual programming in this set
1 Press **TUNER** on the set or remote control to select TUNER mode.
2 Press **TUNER** (MW•FM) again to select the desired waveband: MW or FM.
3 Press **TUNING** ∧ or ∨ for more than one second to tune to the desired frequency.
4 Press **PROGRAM/SET** for less than 1 second.
  → The PRESET flag flashes on the display.
5 Press **PRESET** ∧ or ∨ to select a preset number.
  → The preset number flashes on the display.
6 Press **PROGRAM/SET** again.
  → The station and the preset number are stored and STORED is displayed.
- Repeat the above procedure to store other preset stations.

Note:
– *When a power interruption occurs, the preset stations memory will remains for at least one hour before it is erased.*

Tuning to Preset Stations

- Press **PRESET** ∧ or ∨ (or **PREV** |◀ or **NEXT** ▶| on the remote control) to select the desired preset number.
  → The preset number, frequency and waveband appear on the display.

CASSETTE DECK



Loading a cassette

- Press **OPEN**.
- The cassette compartment door opens.
- Load the cassette with the open side downward and the full spool to the left.

- Close the cassette compartment door.
  → The deck automatically selects the tape type (NORMAL or CHROME (CrO_2)).

Tape Playback

1 Press **TAPE** on the set or on the remote control to select TAPE mode.
2 Load the cassette into the **tape deck**.
3 Press **PLAY** ▶ on the set or remote control to start playback on side A.
  → "SIDE A PLAY" scrolls across the display.
- Press **PLAY** ◀ (or first press **SIDE** then press **PLAY** ▶ on the remote control) to start playback on side B.
  → "SIDE B PLAY" scrolls across the display.
4 Press **STOP** ■ on the set or remote control to end playback.
  → "STOP" scrolls across the display.

Fast Forward/Rewinding

1 You can rewind or fast forward the cassette by pressing |◀◀ or ▶▶| (◀◀ or ▶▶ on the remote control) when the cassette is at the stop mode.
  → " ⟪ or ⟫ " scrolls across the display depending on which button is pressed.
  → The cassette will stop automatically at the end of the rewinding or fast forward.
2 Press **STOP** ■ to stop fast forwarding or rewinding.
  → "STOP" scrolls across the display.

Fast Forward/Rewinding during playback
- Press and hold **SEARCH** |◀◀ or ▶▶| (◀◀ or ▶▶ on the remote control) until the desired passage is located. Play returns to normal when **SEARCH** |◀◀ or ▶▶| is released.

Continuous Playback

The **REVERSE MODE** (or **SIDE** on the remote control) enables you to select the different play modes.

: recording or playback on one side of the cassette in the normal or reverse direction. The cassette stops at the end of one side.

: recording or playback on both sides of the cassette; first in one direction and then in the reverse direction. The cassette then stops.

: continuous playback on both sides of the cassette up to a maximum of 5 times per side until you press **STOP** ■ .

Recording

1 Select **TUNER**.
2 Load a blank cassette into **tape deck**.
3 Press **RECORD** to start recording.
  → "RECORD" is displayed.
  → The RECORD flag is displayed.
- Press **PAUSE** ❚❚ on the set or remote control to interrupt the recording.
  → "PAUSE" is displayed.
- Press **PAUSE** ❚❚ again to resume the recording.
  → "RECORD" is displayed.
4 Press **STOP** ■ on the set or remote control to stop recording.
  → "STOP" scrolls across the display.

Notes:
1. *Only ⇄ or ⇉ mode is available during recording.*
2. *For CD Synchro-start recording see Compact Disc section on CD Recording.*

Changing the FM/MW tuning grid

(for specific versions only)

The frequency step can be changed if necessary. In North and South America, the frequency step between adjacent channels in the FM/MW band is 100 kHz/10 kHz. In other parts of the world, it is 50 kHz/9 kHz. The frequency step presetted in the factory is 9 KHz.

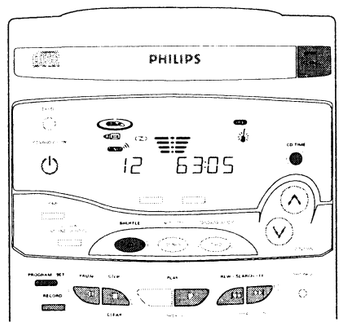
For FM Band : change from 50 kHz to 100 kHz or vice versa
For MW Band : change from 9 kHz to 10 kHz or vice versa

Changing of tuning grid will erase all previously stored preset stations.

Change to 9 kHz or 10 kHz
1 Switch the unit to standby mode and disconnect the unit from the AC power supply (pull out the AC power cord).
2 Keep **STANDBY** and **VOLUME** ∧ depressed, while reconnecting the system to the AC power supply again.
  → Display briefly shows "9 KHZ" or "10 KHZ".

Note:
– *GRID 9 indicates that the tuning grid is in step of 50 kHz in FM band and 9 kHz in MW band.*
GRID 10 indicates that the tuning grid is in step of 100 kHz in FM band and 10 kHz in MW band.

COMPACT DISC



Warning!
1) This set is designed for conventional CDs. Do not use any accessories like disc stabilizer rings or CD treatment sheets, etc., which may damage the CD mechanism.
2) Do not load more than one disc into the tray.

In addition to the conventional 12-cm disc, 8-cm discs can be used without an adaptor.

Loading the CD

1 Press **CD** on the set or remote control to select CD mode.
2 Press **OPEN•CLOSE**.
→ The CD compartment slides out.
3 Load a disc with the ***printed side up***.
4 Press **OPEN•CLOSE** to close the CD compartment.
→ The total number of tracks and the playing time of the disc will appear on the display.

Playing a Disc

1 Press **PLAY** ▶ on the set or remote control to start playback.
→ "CD PLAY" scrolls across the display.
→ The track number and elapsed playing time of the current track appear on the display.
- To interrupt play, press **PAUSE** ❚❚ on the set or remote control.
→ "PAUSE" is displayed briefly.
→ The playing time flashes.
- To resume play, press **PAUSE** ❚❚ again or **PLAY** ▶ on the set or remote control.
2 To stop play, press **STOP** ■ on the set or remote control.
→ "STOP" scrolls across the display.

Note:
– *The CD will play through once and then stop.*

Changing the display mode during play
You can change to a different type of time display when the CD is playing.

- Press **CD TIME** (or **DISPLAY** on the remote control) to cycle to the various time display modes.
→ The display will shows : ELAPSED PLAYING TIME OF THE CURRENT TRACK → REMAINING PLAYING TIME OF THE CURRENT TRACK → REMAINING PLAYING TIME OF CD → ...

Selecting a desired track

Selecting a desired track when playback is stopped
1 Press ⏮ or ⏭ (**PREV** ⏮ or **NEXT** ⏭ on the remote control) until the desired track appears on the display.
2 Press **PLAY** ▶ on the set or remote control to start playback.
→ The selected track number and elapsed playing time appear on the display.

Selecting a desired track during playback
1 Press ⏮ or ⏭ (or **PREV** ⏮ or **NEXT** ⏭ on the remote control) until the desired track appears on the display.
→ The selected track number and elapsed playing time appear on the display.
- If you press ⏮ once it will skip to the beginning of the current track and play the track again.

Searching for a particular passage during play

- Press and hold **SEARCH** ⏮ or ⏭ (or ◀◀ / ▶▶ on the remote control) until the desired passage is located. During the search, the sound is played faster than normal at a reduced volume. Play returns to normal when **SEARCH** ⏮ or ⏭ is released.

Shuffle

SHUFFLE – playing all the tracks in random order. It can also be used during program mode.

To shuffle all the tracks
1 Press **CD** (SHUFFLE), (or **SHUFFLE** on the remote control).
→ "SHUFFLE" scrolls across the display.
→ The SHUFFLE flag and the track selected at random appear on the display.
- The tracks will now be played in random order until you press **STOP** ■ or all the tracks have been played once.
2 Press **CD** (SHUFFLE) again to resume normal play.
→ The SHUFFLE flag disappears from the display.

Programming Tracks

Programming tracks of a loaded CD is possible when CD playback is stopped. The display will indicate the total tracks stored in the program. Up to 20 tracks can be stored in the memory in any order. When 20 tracks are stored and you attempt to store another track, the display will show "PROGRAM FULL."

1 Load the desired disc in the disc tray.
2 Press ⏮ or ⏭ (or **PREV** ⏮ or **NEXT** ⏭ on the remote control) to select the desired track.
3 Press **PROGRAM/SET** to store the track.
- Repeat steps **2** to **3** to store other tracks.

Playing the program
1 Press **PLAY** ▶ on the set or remote control to start program playback.
→ "PROGRAM PLAY" scrolls across the display.
→ The track number and elapsed playing time of the current track appear on the display.
2 Press **STOP** ■ on the set or remote control to stop program playback.

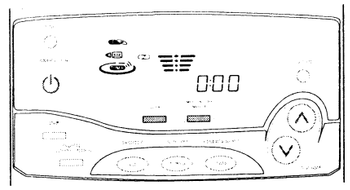
Erasing the program (when playback is stopped)
- Press **STOP** ■ on the set or remote control.
→ The last stored track is erased.
→ "CLEARED" appears on the display.
- Press and hold **STOP** ■ on the set or remote control for 2 seconds.
→ All the program tracks are erased.
→ "PROGRAM CLEARED" appears on the display.

Note:
– *The program is also erased when the set is disconnected from the power supply or the CD tray is opened.*

CD Recording (ONE TOUCH RECORDING)

1 Press **CD** on the set or remote control to select CD mode.
2 Load a blank cassette into **tape deck**.
3 Load the desired disc in the disc tray.
4 Press **RECORD** to start recording.
→ "ONE TOUCH RECORD" scrolls across the display.
→ The RECORD flag is displayed.
→ CD playback will begin automatically after skipping the leader tape portion at the beginning of the cassette.
- You can program the tracks in the order you want them to be recorded (see Programming Tracks).
→ "ONE TOUCH PROGRAM RECORD" appears on the display.
5 Press **STOP** ■ on the set or remote control to stop recording.

CLOCK / TIME SETTING



Setting the clock

The clock is in 24-hour mode, e.g. 0:00 or 23:59.

1 Press **STANDBY•ON** to switch on the set.
2 Press **CLOCK**.
→ The display will show "0:00" and ":" flashes.
3 Set the hour with ◀ or ▶.
4 To set the minute, press ⏮ or ⏭.
→ The display will show "0:00" and "00" flashes.
5 Set the minute with ◀ or ▶.
6 Press **CLOCK** again to store the setting.
→ The clock starts running.

Notes:
– *When a power interruption occurs, the clock settings are erased.*

Setting the Timer

- **The timer will only activate when the set is in the standby mode. If the set is switched on, the timer function will not be activated.**
- The system can switch on to TUNER, CD, TAPE or REC TU mode automatically at a preset time. It can serve as an alarm to wake you up.
- Before setting the timer, make sure the clock is set correctly.
- The timer works only once for each setting.
- **The volume of the timer will be at the last setting before the set is switched to standby mode.**

Timer Setting

1 Press **STANDBY•ON** to switch on the set.
2 Press **TIMER SET** and hold for 2 seconds.
→ The TIMER flag flashes.
3 Press ◀ or ▶ to select the desired source.
→ The display will switch as follows:
TUNER → CD → TAPE → REC TU → TUNER ...

If you select TUNER ...
- Select the desired waveband (MW or FM) first then press **PRESET** ∧ or ∨ to select the preset station.
- Then, continue with steps 4 to 8.

If you select CD ...
- Track 1 will be selected and play back automatically at the preset time.
- Then, continue with steps 4 to 8.

If you select TAPE ...
- The cassette will playback automatically at the preset time.
- Then, continue with steps 4 to 8.

If you select REC TU ...
- A blank cassette has to be insert into the cassette compartment.
- Press **PRESET** ∧ or ∨ to select the preset station to be recorded.
- Then, continue with steps 4 to 12.

4 Press **TIMER SET** to confirm your source selection.
→ "START" is displayed.
→ The display will show "0:00" and ":" flashes.
5 Press ◀ or ▶ to set the hour for the timer to start.
6 Press ◀◀ or ▶▶ to switch to the minute mode.
7 Press ◀ or ▶ to set the minutes for the timer to start.
8 Press **TIMER SET** to store the start time.
For REC TU mode, continue to adjust the stop time.
→ "STOP" is displayed.
→ The display will show "0:00" and "00" flashes.
9 Press ◀ or ▶ to set the hour for the timer to stop.
10 Press ◀◀ or ▶▶ to switch to the minute mode.
11 Press ◀ or ▶ to set the minutes for the timer to stop.
12 Press **TIMER SET** to store the stop time.
→ The TIMER is now set.
→ The TIMER flag remains lit.

To stop the TIMER
- Press **TIMER ON•OFF** on the set.
→ The TIMER flag disappears from display.

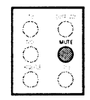
To start the TIMER again
- Press **TIMER ON•OFF** on the set
→ The TIMER flag light up.

Note:
– *The timer setting program will exit automatically after 5 seconds if there is no further action on the set.*

OTHER FEATURES

Mute

This feature allows you to temporarily switch off the sound of the system without switching off the set when you require a moment of silence.



- Press **MUTE** on the remote control to switch off the sound.
→ "MUTE" is displayed.
- Press **MUTE** again on the remote control to switch on the sound.

Sleep

This feature allows you to select a time after which the system will switch to the standby mode automatically.

- Press **SLEEP** on the remote control repeatedly to cycle through the sleep timer mode.
→ "SLEEP" and the SLEEP flag are displayed.
→ The timer for selection is as follows:
120 MIN → 90 MIN → 60 MIN → 45 MIN → 30 MIN → 15 MIN → 5 MIN → OFF → 120 MIN ...
- Select the sleep time you desire.

When the sleep timer is switched on, to check the remaining time before the set switches to standby mode.

- Press **SLEEP** once.
→ The remaining time will scroll through the display.

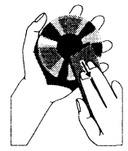
To switch off the sleep timer mode.
- Press **SLEEP** until "OFF" is displayed or ⏻.

MAINENANCE

Maintenance

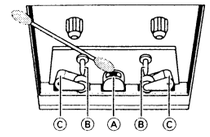
Cleaning the Cabinet
- Use a soft cloth slightly moistened with a mild detergent solution. Do not use a solution containing alcohol, spirits, ammonia or abrasives.

Cleaning Discs



- When a disc becomes dirty, clean it with a cleaning cloth. Wipe the disc from the center out.
- Do not use solvents such as benzine, thinner, commercially available cleaners, or anti-static spray intended for analog records.

Cleaning the Heads and the Tape Paths
- To ensure good recording and playback quality, clean the head Ⓐ, the capstan(s) Ⓑ, and pressure roller(s) Ⓒ after every 50 hours of tape operation.



- Use a cotton swab slightly moistened with cleaning fluid or alcohol.

Demagnetizing the heads
- Use a demagnetizing cassette available at your dealer.

SPECIFICATIONS

AMPLIFIER
Output power ..... 300 W PMPO
.. 2 x 15 W RMS (± 10% THD, 4Ω, 1 kHz)
Power band width ..... 20 - 20000 Hz
Frequency response ..... 20 - 20000 Hz
Signal-to-noise ratio ..... ≥ 80 dB (IEC)
Stereo separation ..... ≥ 55 dB (1 kHz)
Loudspeakers ..... ≥ 4 Ω
Headphones ..... 32 Ω - 1000 Ω
TUNER
FM wave range ..... 87.5 - 108 MHz
MW wave range
9 kHz Grid ..... 531 - 1602 kHz
10 kHz Grid ..... 530 - 1710 kHz
Sensitivity at 75 Ω, 26 dB S/N ratio, FM mono .. 2.5 µV
FM Frequency response ..... 63 - 15000 Hz (± 3 dB)
Signal-to-noise ratio ..... ≥ 54 dBA
CD PLAYER
Frequency range ..... 20 - 20000 Hz
Signal-to-noise ..... ≥ 80 dB
Channel separation ..... ≥ 60 dB
Total harmonic distortion ..... ≤ 0.3%
CASSETTE DECK
Frequency range
CrO_2 tape (type II) ..... 80 - 15000 Hz (± 2 dB)
Normal tape (type I) ..... 100 - 10000 Hz (± 3 dB)
Signal-to-noise ratio (without DBB)
CrO_2 tape (type II) ..... ≥ 50 dBA
Normal tape (type I) ..... ≥ 45 dBA
Wow and flutter ..... ≤ 0.25% DIN
MAIN UNIT
Material/finish ..... Metal and polystyrene
Dimensions (w x h x d) ..... 160 x 273 x 295 (mm)
Weight ..... 5 kg approx.
SPEAKER BOX
Dimensions (w x h x d) ..... 160 x 270 x 290 (mm)
Weight ..... 5 kg approx.
Speaker woofer ..... 1 x 5.5 inch
Speaker tweeter ..... 1 x 2 inch

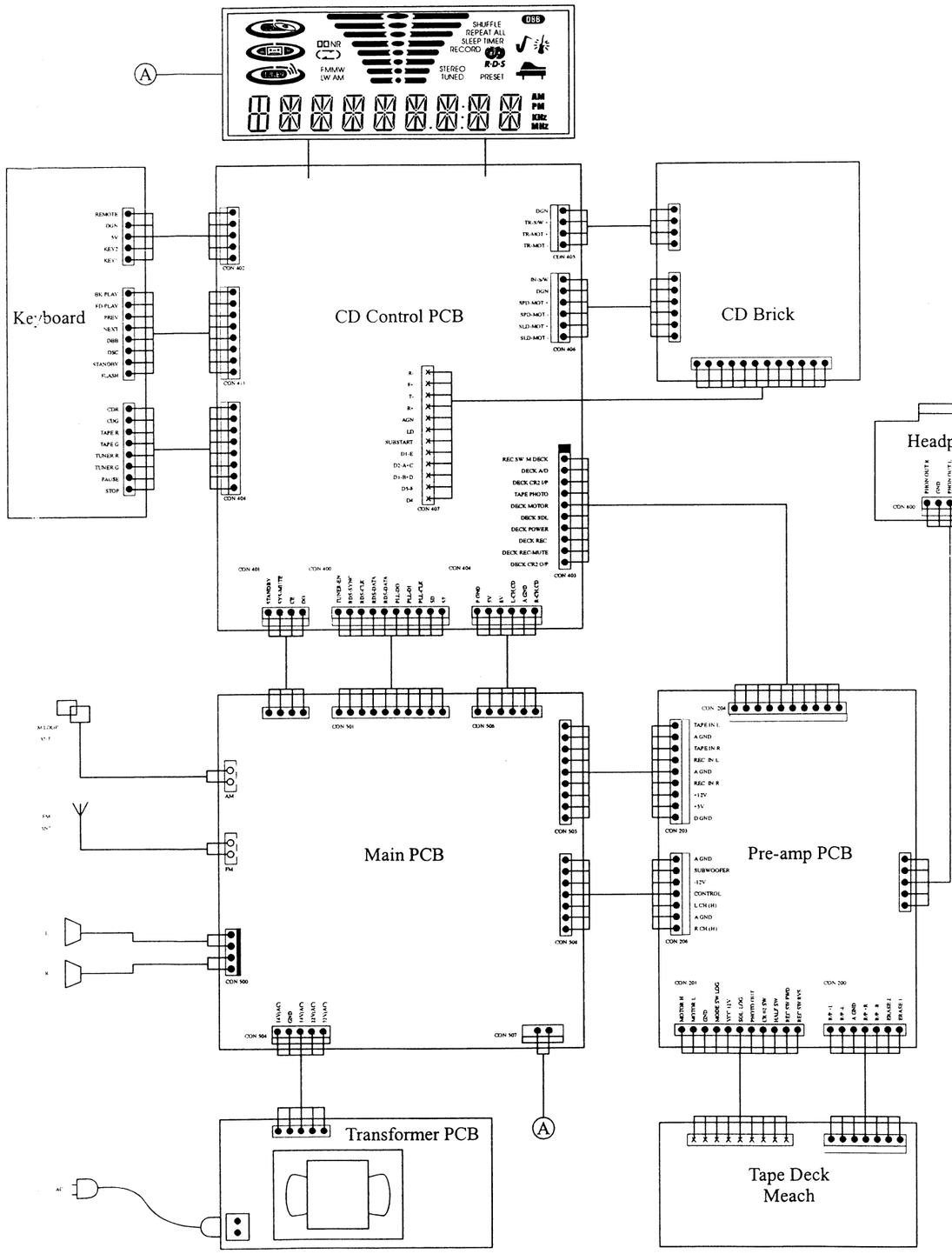
TROUBLESHOOTING GUIDE

Warning! Under no circumstances should you try to repair the set yourself, as this will invalidate the warranty.

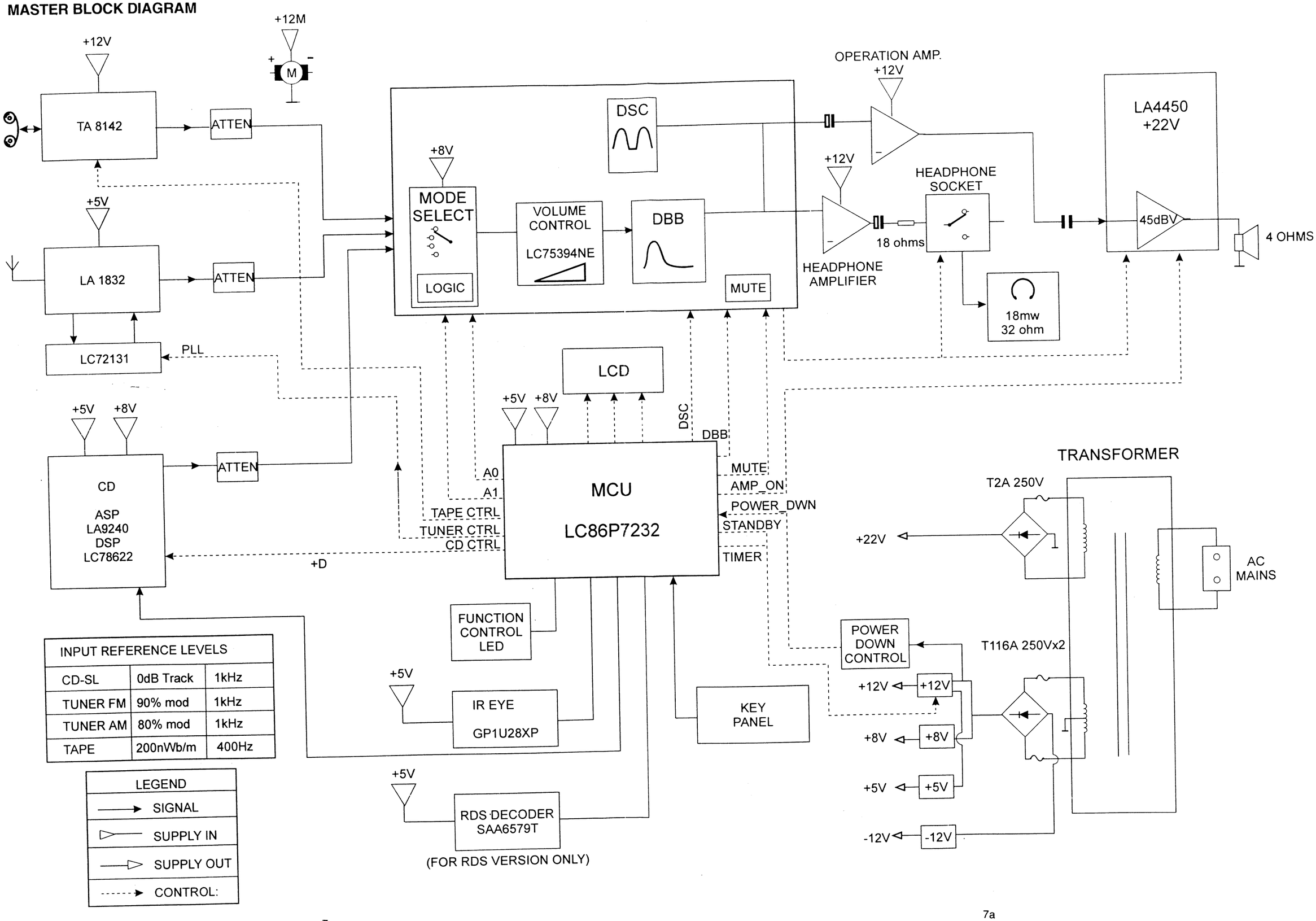
- If a fault occurs, check the points listed below before taking the set for repair.
- Should any problems persist after you have made these checks, consult your nearest dealer or service center.

SYMPTOM	POSSIBLE CAUSE	REMEDY
RADIO RECEPTION		
The STEREO indicator flashes.	The signal is too weak.	Adjust the antenna.
Severe hum or noise.	The signal strength is too weak.	Adjust the antenna.
	The TV or VCR is too close to the stereo system.	Separate the stereo system from the TV or VCR.
		Connect an external antenna for better reception.
CASSETTE DECK OPERATION		
Recording is not possible.	No cassette in the cassette deck.	Insert a blank cassette into the cassette deck.
	The protection tab has been broken.	Put a piece of clear adhesive tape over the opening.
Recording or playback cannot be made or there is a decrease in audio level.	Dirty tape heads.	See section on cassette deck maintenance.
	Magnetic build-up in the record/playback head.	Use demagnetizing cassette.
Excessive wow or flutter, or sound drop-out.	Contamination of the capstans or pressure rollers.	See section on cassette deck maintenance.
CD PLAYER OPERATION		
"NO CD" is displayed.	The disc is inserted upside down.	Place CD with printed side up.
	Moisture condensation.	Wait until lens has adjusted to normal room temperature.
	There is no disc in the CD tray.	Insert a CD.
	The CD is dirty, badly scratched or warped.	Replace or clean the CD.
GENERAL		
Set not working.	Set does not react when buttons are pressed.	Press STANDBY•ON to switch the unit off, then switch it on again. Or, unplug the AC power plug from the wall outlet, then plug it in again.
No or poor sound.	Volume is not turned up.	Adjust VOLUME.
	The headphones are connected.	Disconnect the headphones.
	Speakers are not connected or are connected wrongly.	Check that the speakers are connected correctly. Make sure that the stripped speaker wire is clamped.
Reversed left and right sound.	Speakers are connected wrongly.	Check the speaker connections and speaker location.
Lack of bass sound or apparently imprecise physical location of musical instruments.	Speakers are connected wrongly.	Check the speaker connection for proper phasing, red/black wires to red/black terminals.
Clock blinking.	There was a power disruption.	Reset the clock.
Remote control has no effect on the set.	The distance to the system is too large.	Reduce the distance.
	Batteries are inserted incorrectly.	Insert the batteries correctly.
	Batteries are exhausted.	Replace the batteries.
	Wrong sound source is selected.	Select the sound source before pressing the function button (PLAY, PREV./NEXT, etc.).
Timer not working.	Timer not switched on.	Press TIMER ON•OFF on the set to switch on the timer.
	Dubbing/recording is active.	Stop dubbing/recording.
"PRESS DEMO TO EXIT" is displayed.	Demo mode is switched on.	Press STANDBY•ON or DEMO to switch off the demo.

WIRING DIAGRAM



MASTER BLOCK DIAGRAM



INPUT REFERENCE LEVELS		
CD-SL	0dB Track	1kHz
TUNER FM	90% mod	1kHz
TUNER AM	80% mod	1kHz
TAPE	200nWb/m	400Hz

LEGEND
SIGNAL
SUPPLY IN
SUPPLY OUT
CONTROL:

OPERATION AMP.
+12V

DSC

LA4450
+22V

+12V

HEADPHONE
SOCKET

VOLUME
CONTROL

LC75394NE

DBB

45dBV

18 ohms

4 OHMS

MUTE

HEADPHONE
AMPLIFIER

18mw
32 ohm

LCD

5V +8V

DSC

DBB

MUTE

AMP_ON

POWER_DWN

STANDBY

TIMER

MCU

LC86P7232

TRANSFORMER

T2A 250V

+22V

AC
MAINS

POWER
DOWN
CONTROL

T116A 250Vx2

+12V

+12V

+8V

+8V

+5V

+5V

-12V

-12V

KEY
PANEL

3XP

ODER
79T

SION ONLY)

BLOCK DIAGRAM - PANEL BOARD

IR100

CON-100

TO CD PB
CON-408

CD LED (R)
CD LED (G)
TAPE LED (R)
TAPE LED (6)
TUNER LED (R)
TUNER LED (6)

CON-102

TO CD PCB
CON-411

DBB LED
DSC LED
FLASH

LED INDICATORS

KEY1
KEY2
5V
DGND
REMOTE

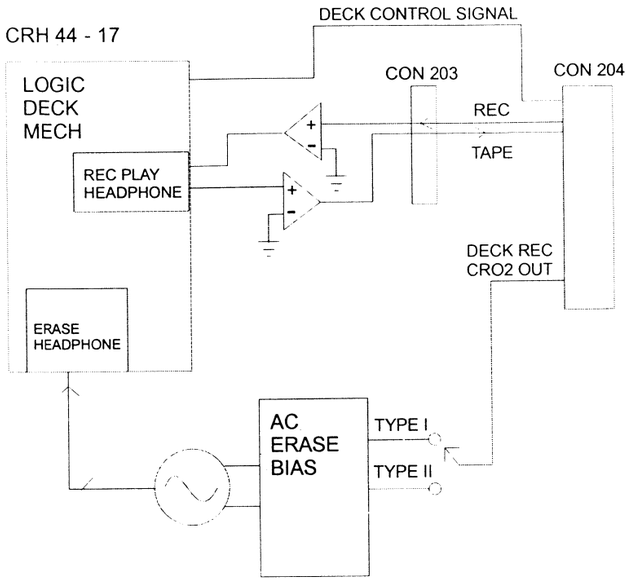
TO CD PCB
CON-402

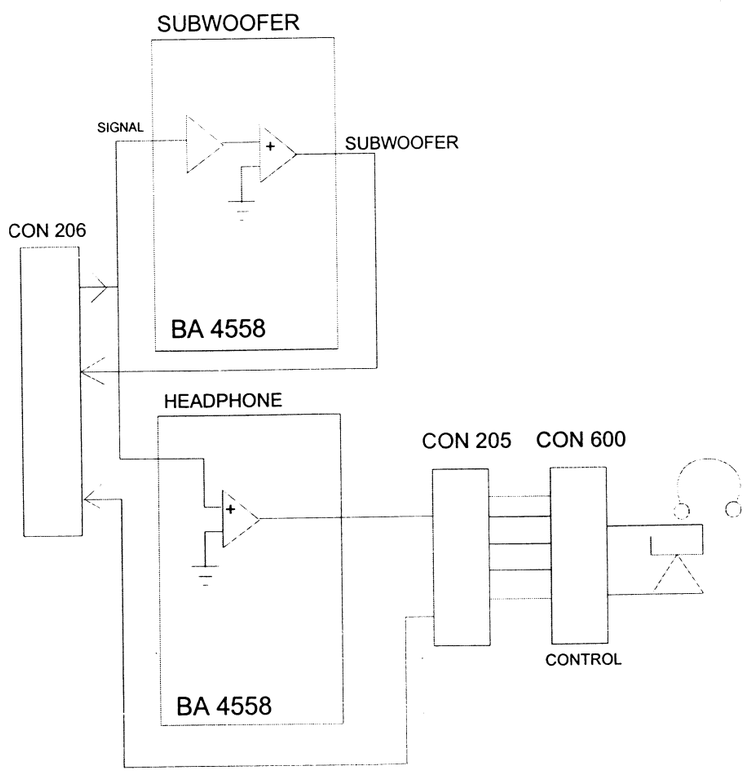
KEY DATA

KEY PANEL

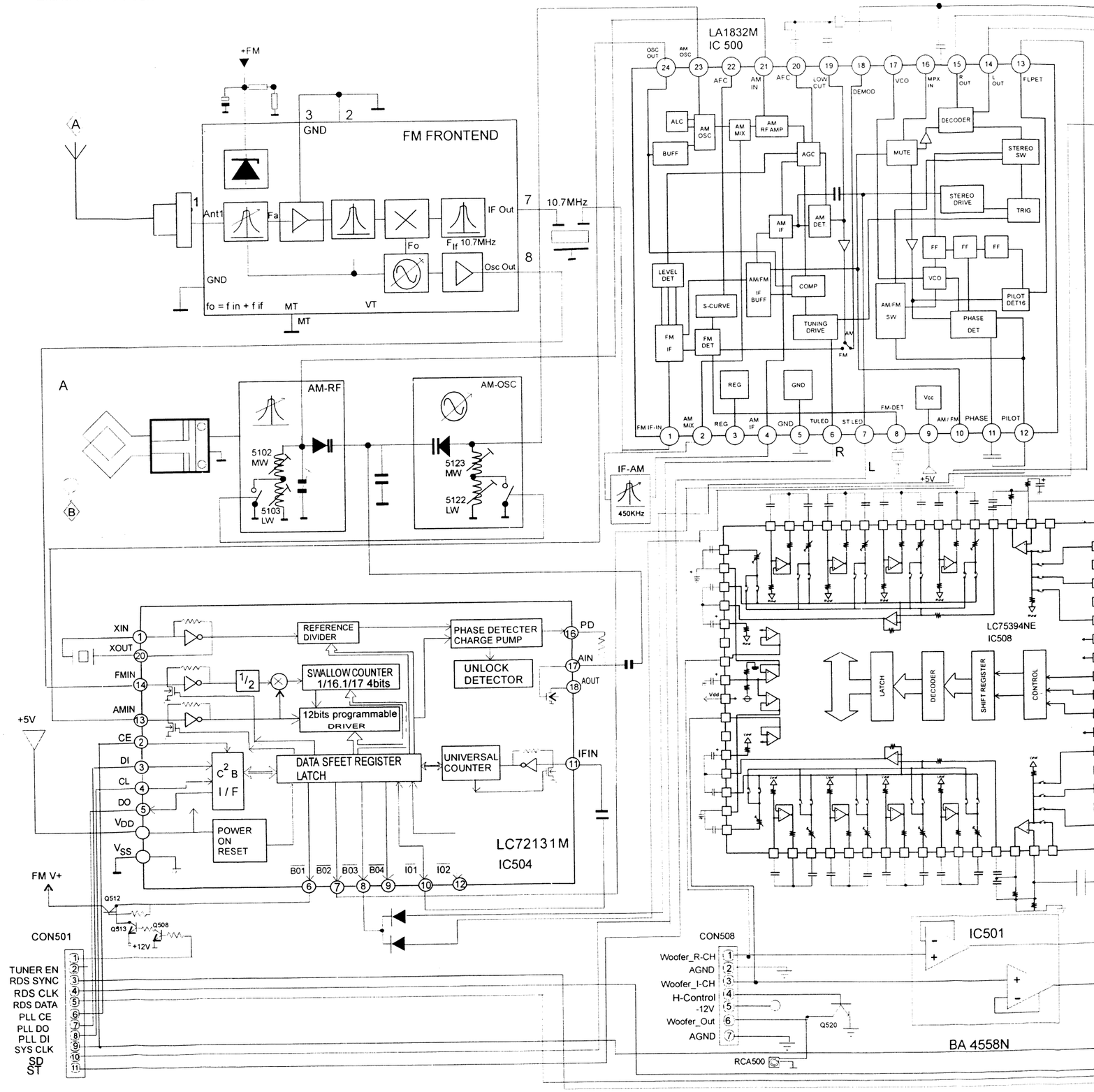
REMOTE
SENSOR

BLOCK DIAGRAM - PREAMP BOARD

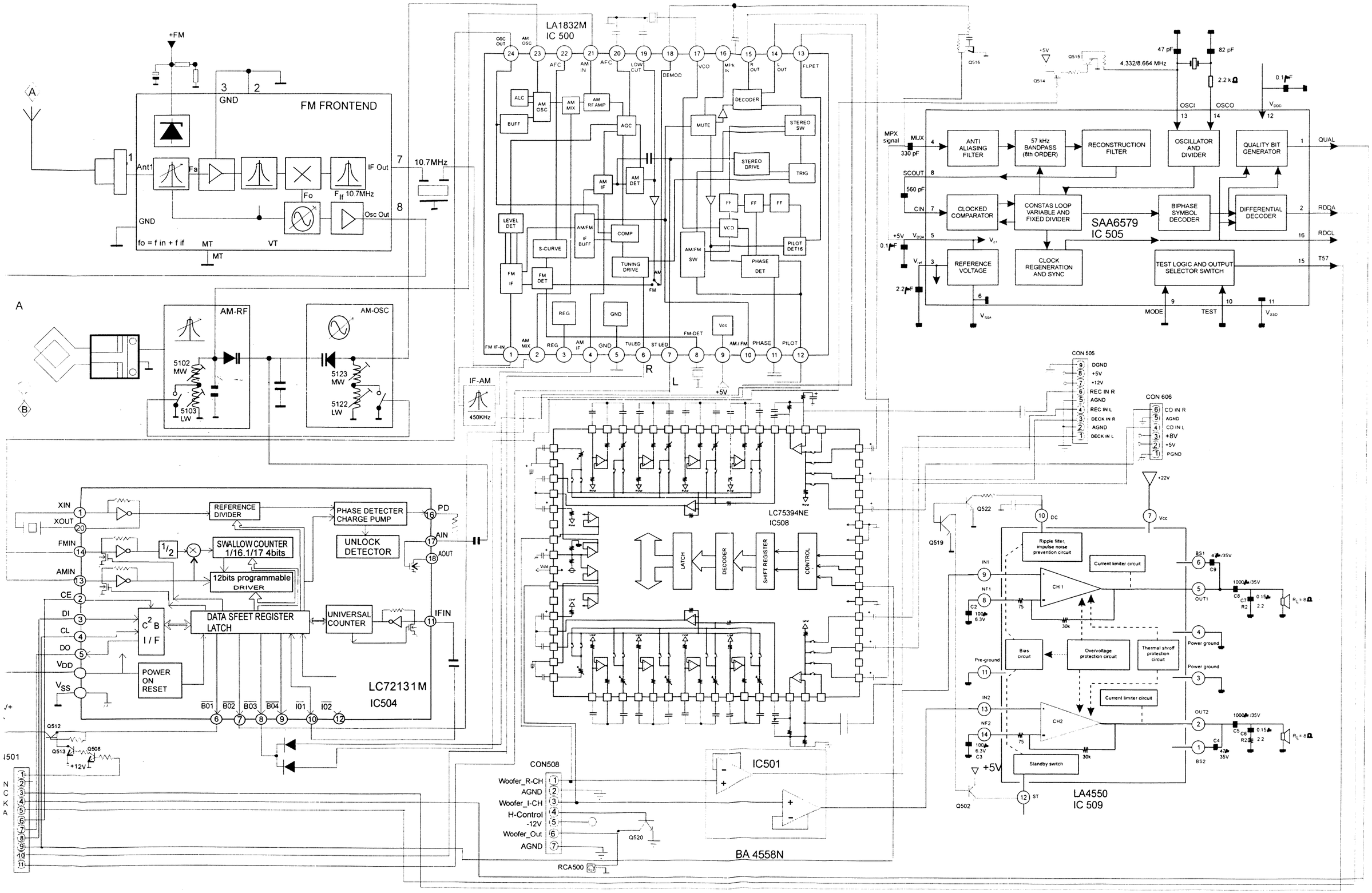




BLOCK DIAGRAM - MAIN BOARD



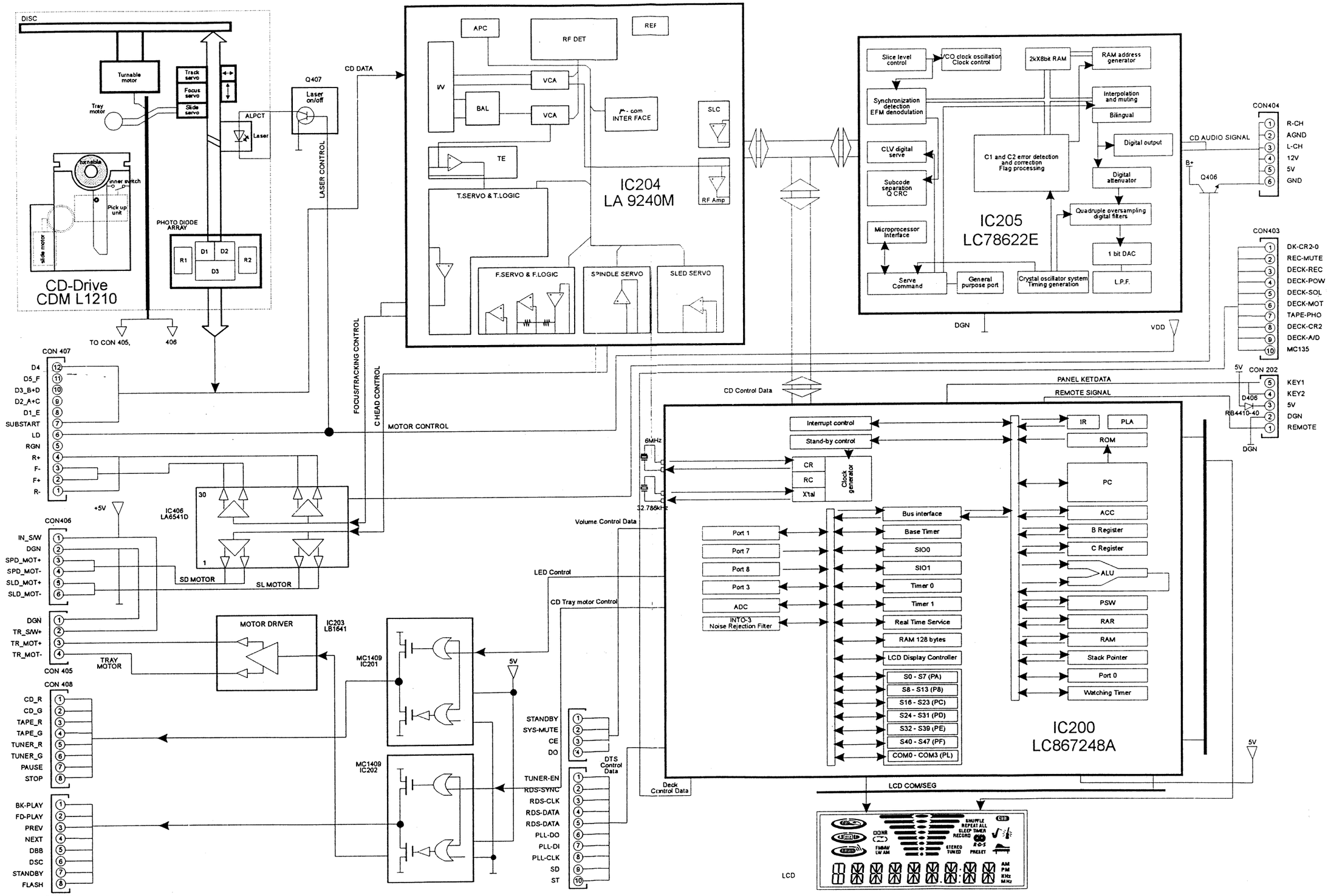
BLOCK DIAGRAM - MAIN BOARD



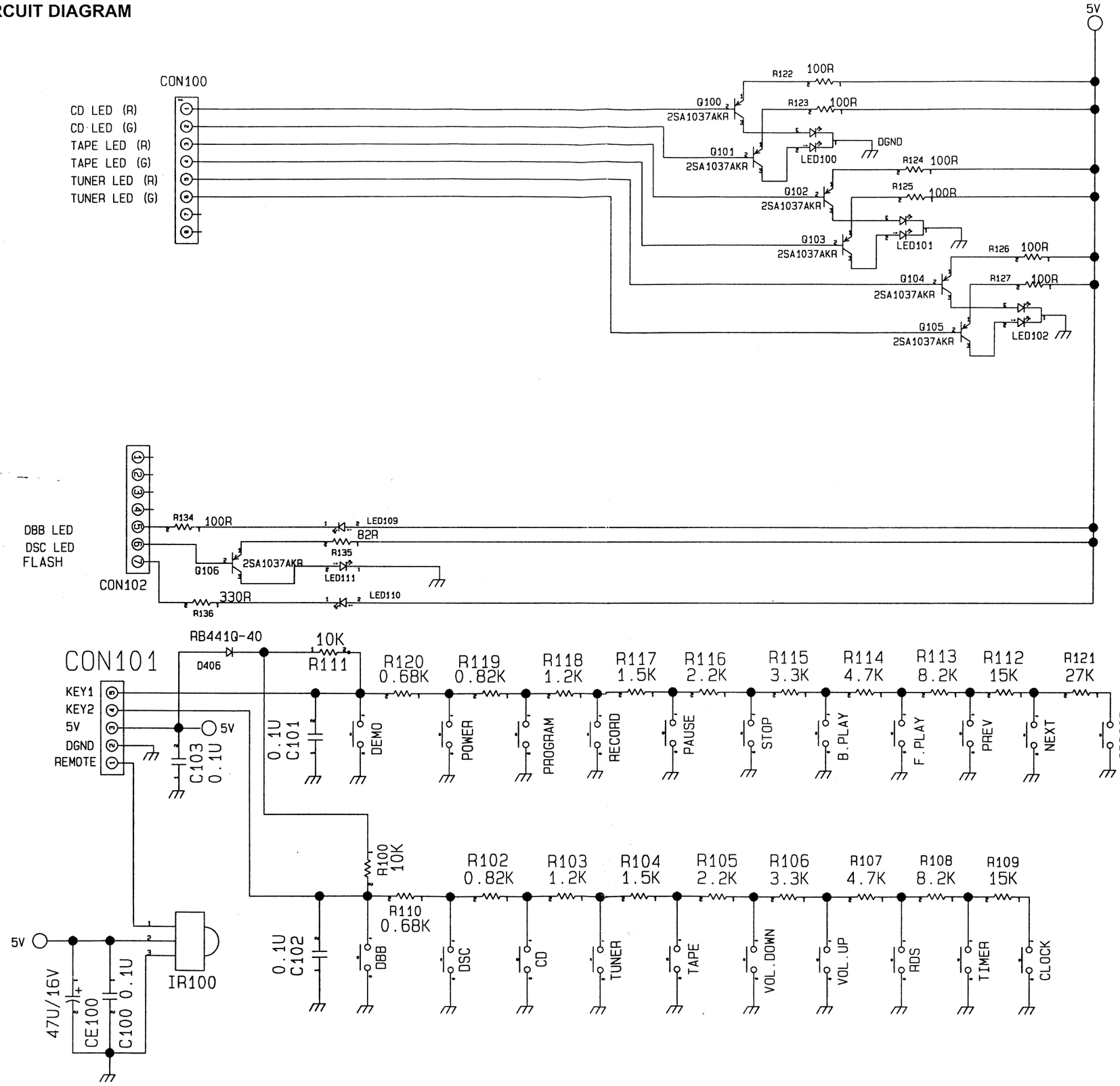
8a

8b

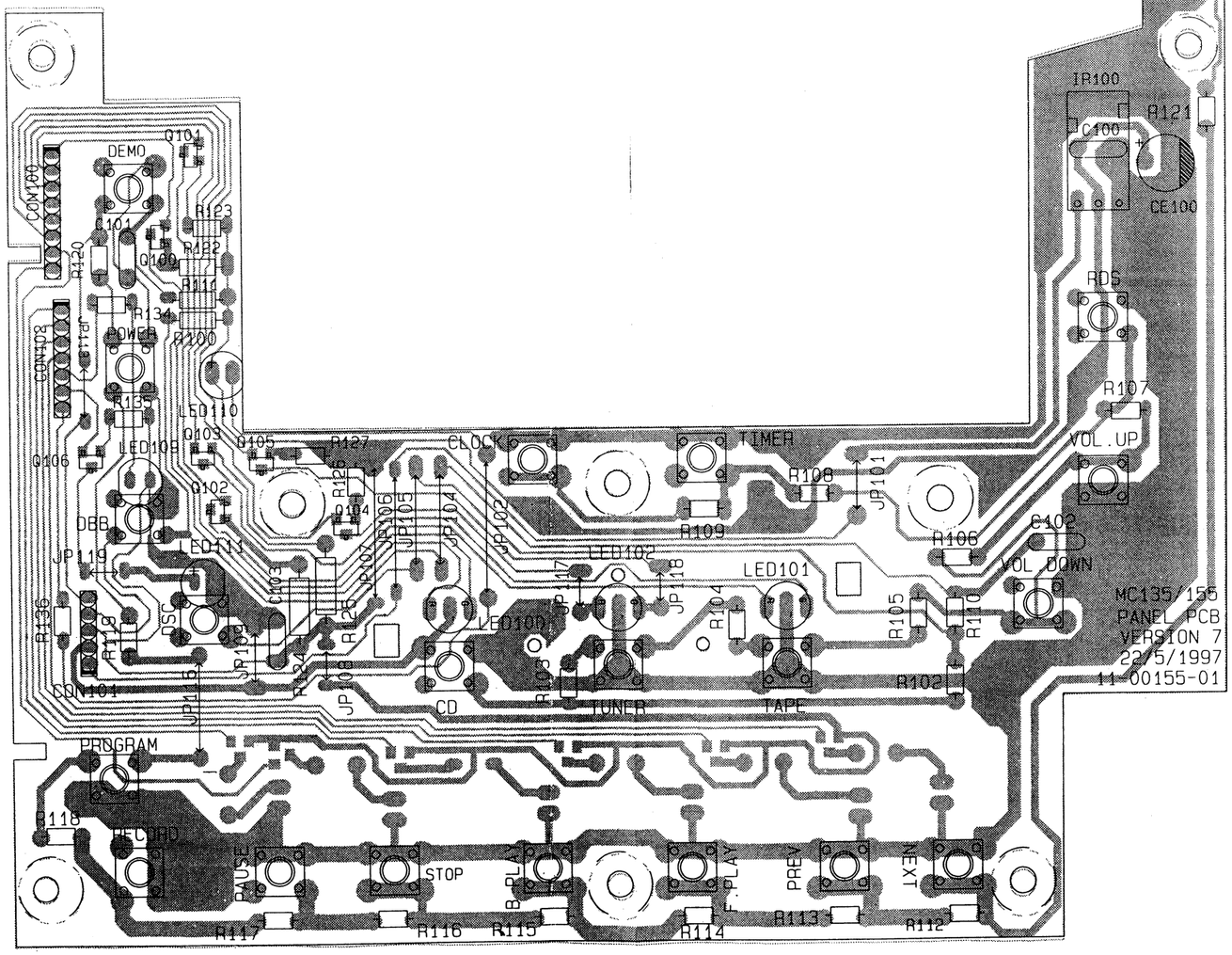
BLOCK DIAGRAM - CD BOARD



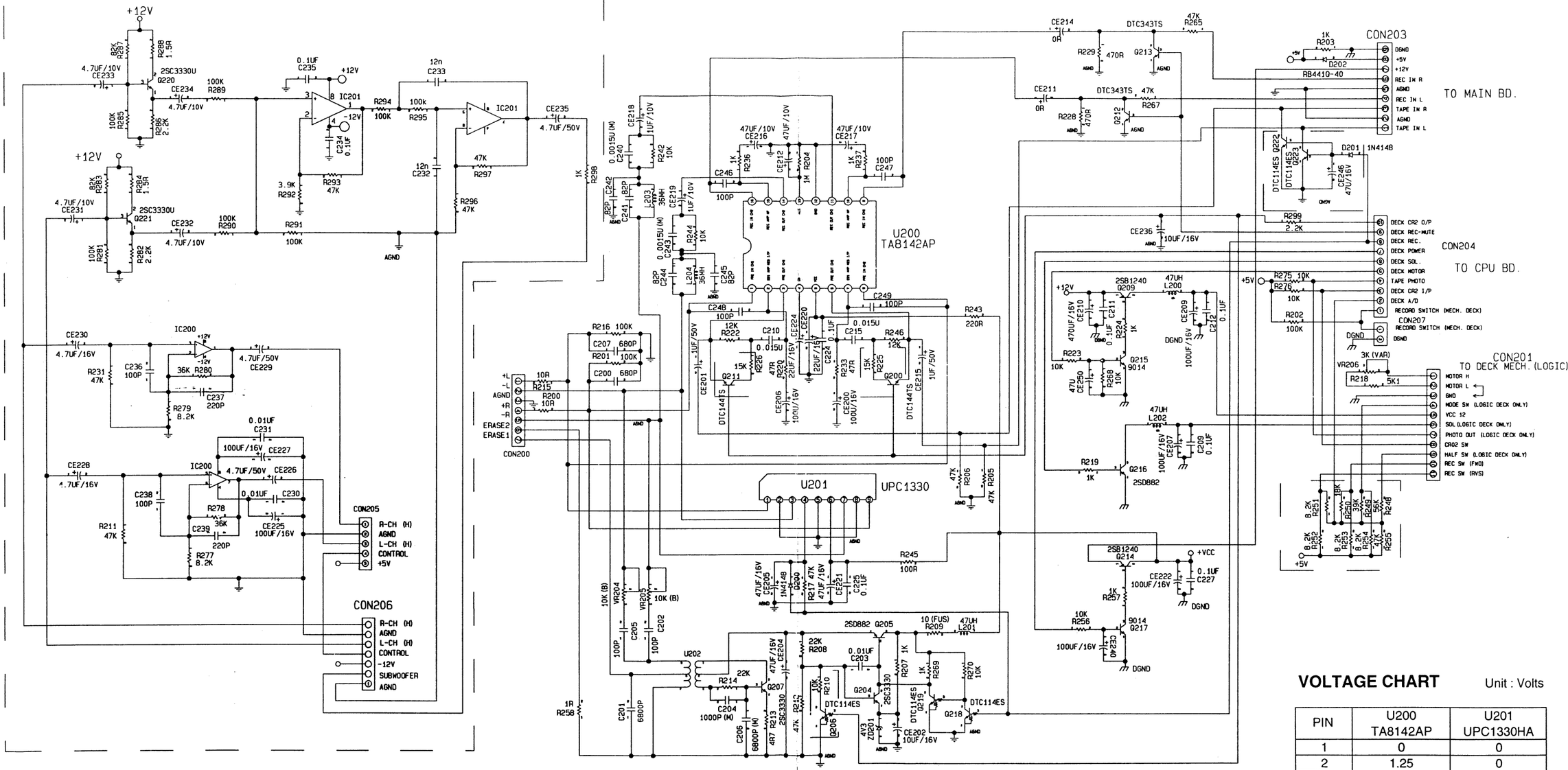
PANEL BOARD - CIRCUIT DIAGRAM



PANEL BOARD - LAYOUT DIAGRAM



PREAMP BOARD - CIRCUIT DIAGRAM



VOLTAGE CHART

Unit : Volts

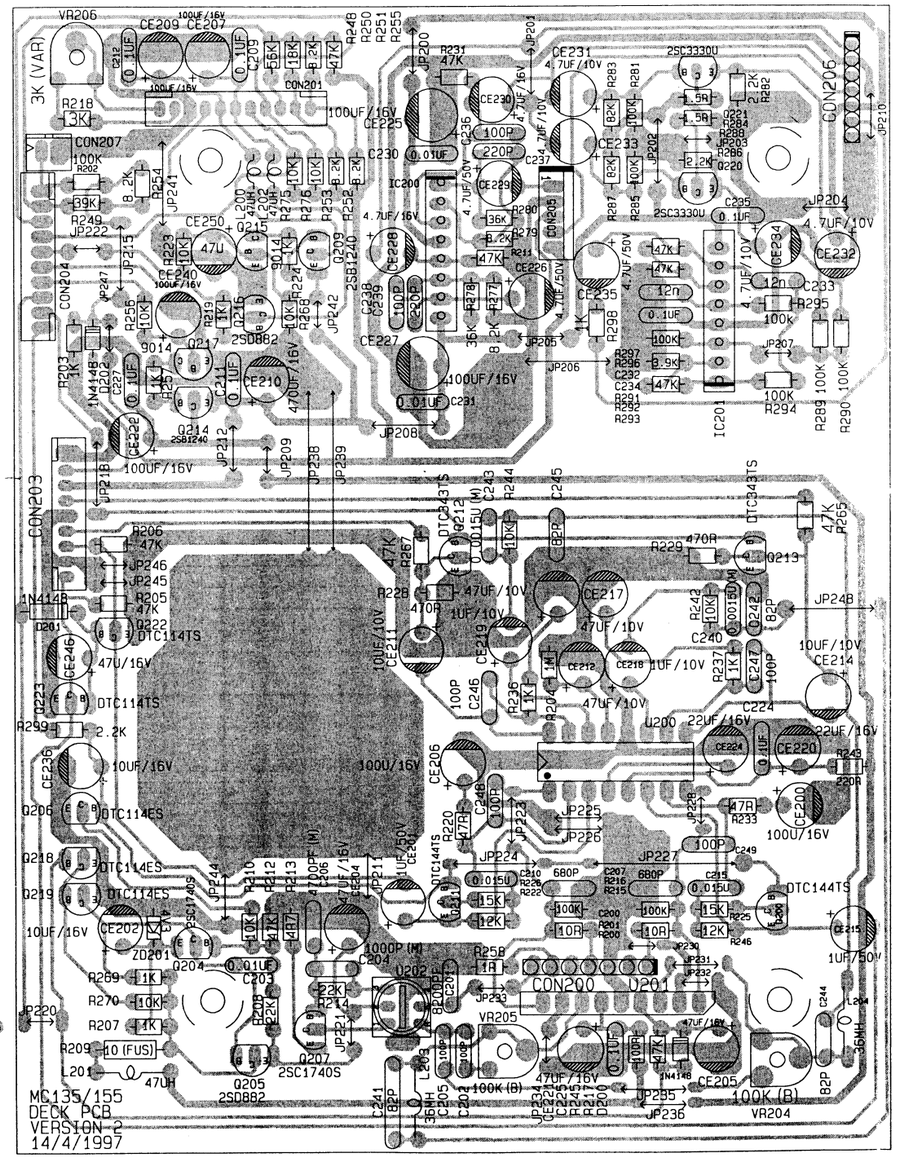
PIN	IC200 BA4558N	IC201 BA4558N
1	0.05	0.06
2	0	0
3	0	0
4	-12.09	-12.08
5	0	0.06
6	0	0
7	0.05	0.06
8	12.35	12.45

VOLTAGE CHART

Unit : Volts

PIN	U200 TA8142AP	U201 UPC1330HA
1	0	0
2	1.25	0
3	2.05	0
4	1.43	0
5	10.21	0
6	2.05	11.69
7	1.25	0
8	0	
9	0	
10	1.25	
11	2.21	
12	0	
13	0	
14	2.22	
15	1.25	
16	0	

PREAMP BOARD - LAYOUT DIAGRAM



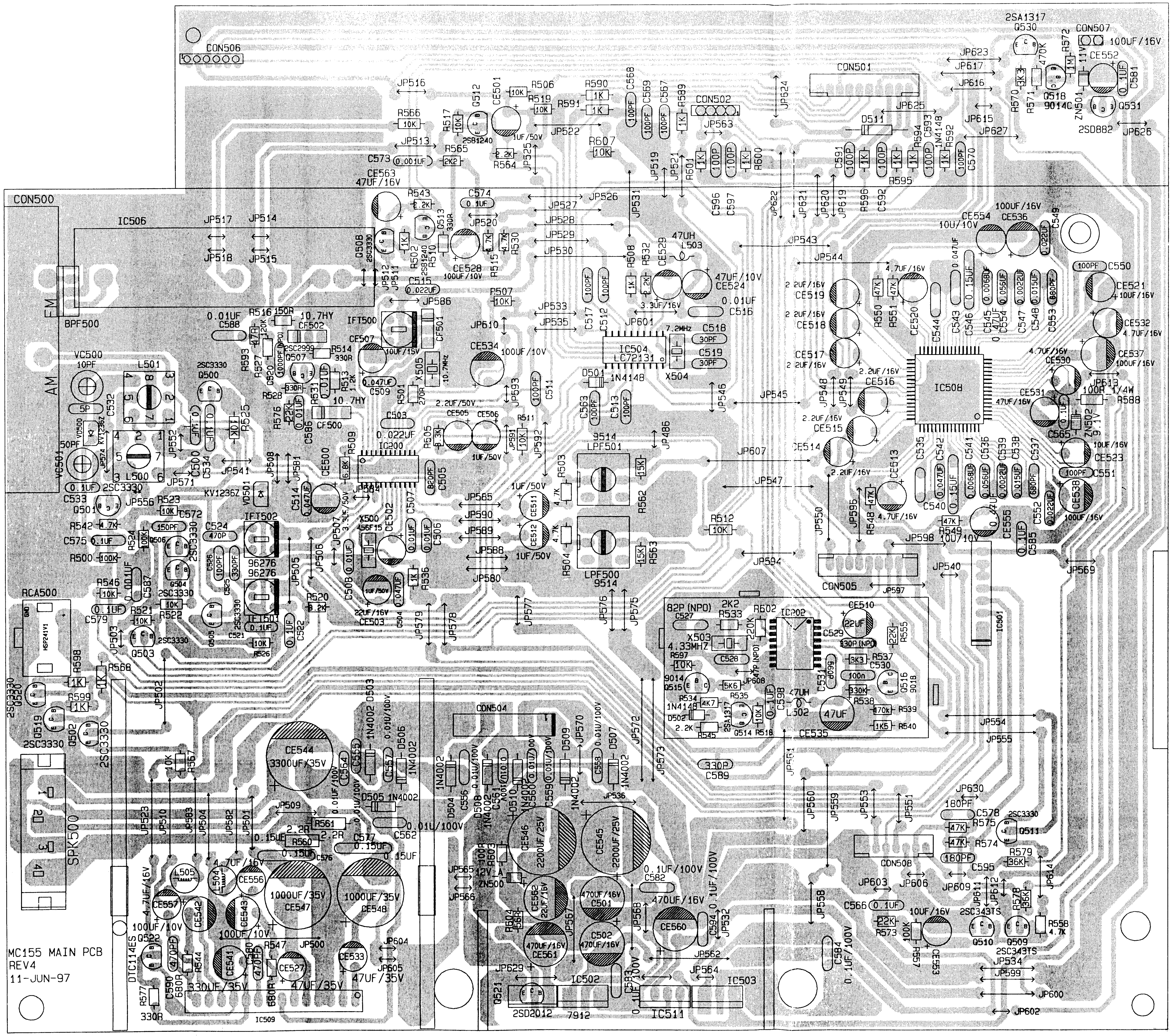
CASSETTE ADJUSTMENT

Adjustment	Cassette	SK	Deck 1	Measure on	Read on	Adjust with	Adjust to
Azimuth	10kHz SBC420*	TAPE	Forward Play	Speaker	mV meter	Left hand Screw R/P head	max.
			Reverse Play	Speaker	mV meter	Right hand Screw R/P head	max.
Motor Speed	3150kHz SBC420*	TAPE	Play	Speaker	W&F Meter	VR206	**a
Bias Frequency Alignment	/	TAPE	Record	Pin 6 of U202	Frequency Counter	U202	110 ± 2KHz

* SBC420 : 4822 397 30071

**a The maximum permissible speed deviation is ± 2%.
Morever, the wow and flutter value can be read.
This value should not exceed 0.3%.

MAIN BOARD - LAYOUT DIAGRAM



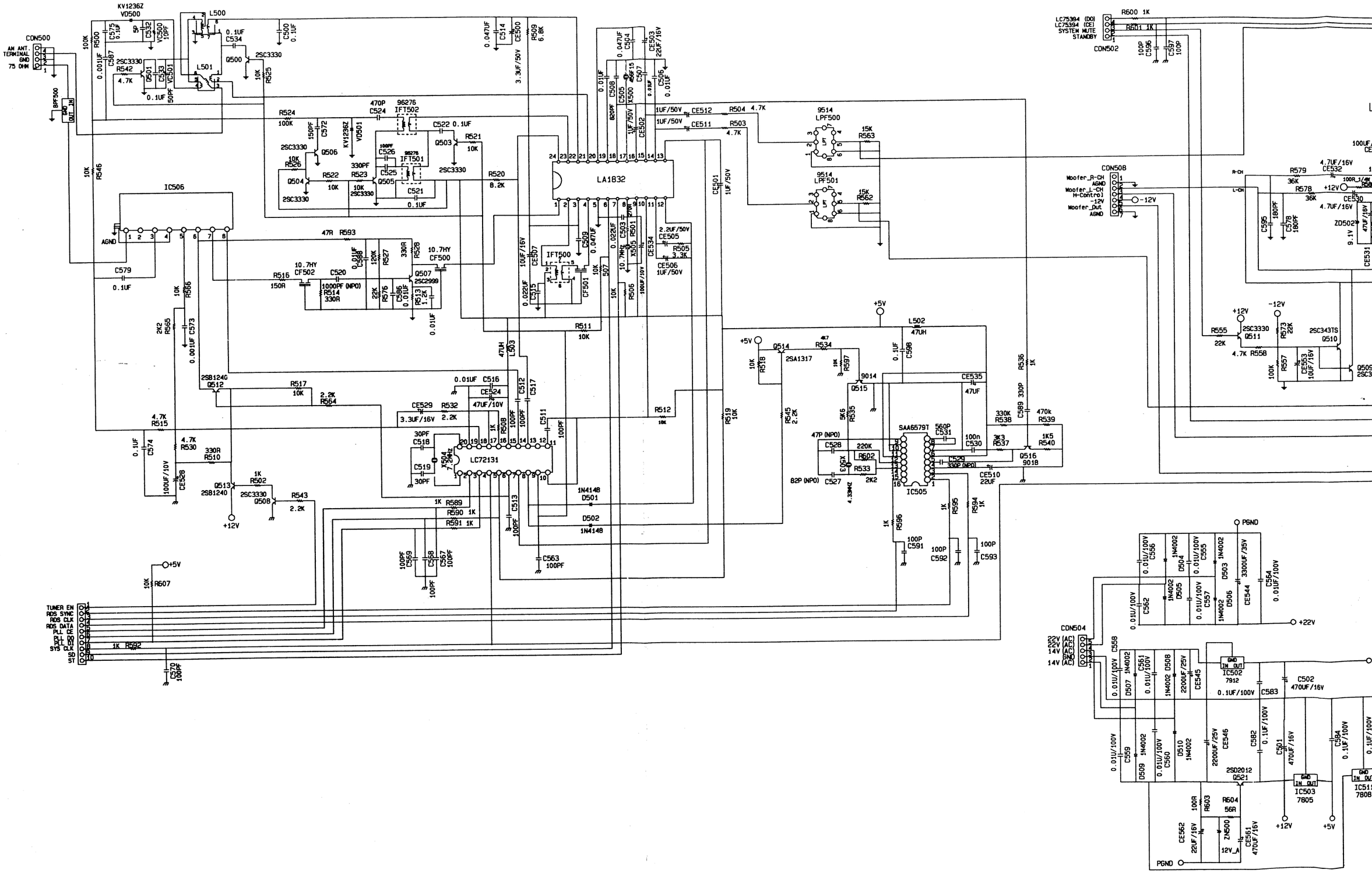
VOLTAGE CHART

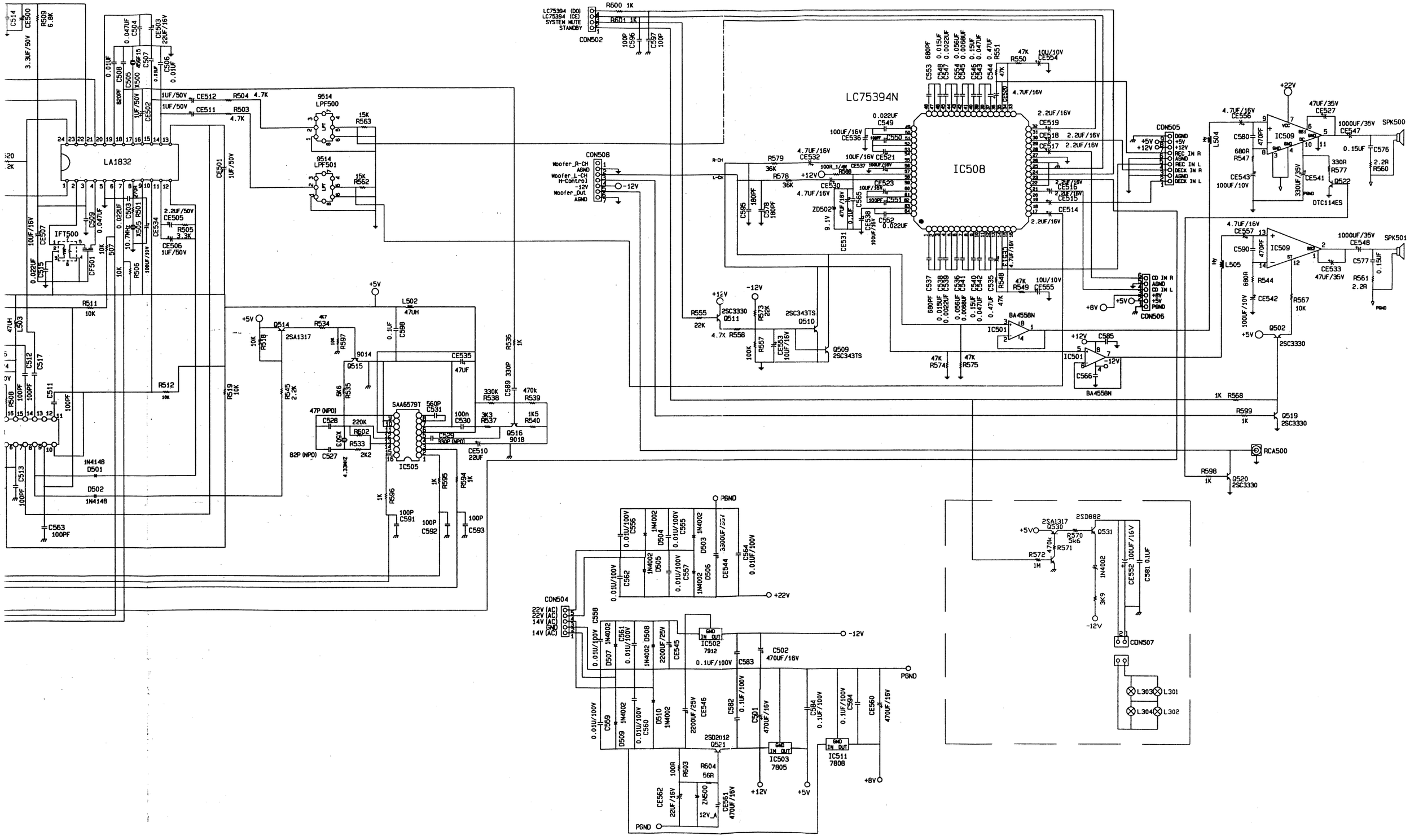
PIN	IC500 LA1832M FM	IC500 LA1832M AM	IC504 LC72131 FM	IC504 LC72131 AM
1	2.1		2.6	
2	5		0	
3	2.1		0	
4	2.1		0	
5	0		5	
6	5		1	13
7	5		4	0
8	2.8	3.4	5	0.1
9	5		5	
10	5		0	
11	3.8	1.5	0	
12	3.8	0	0	
13	3.5		0	2.5
14	1.2		2.5	0
15	1.2		5	
16	2.1		1	1.2
17	2.4	0	1	1.2
18	2	0.9	3.2	1
19	0	1.9	0	
20	0.2	0.9	2.6	
21	2.9	2.1		
22	2.9	2.1		
23	5			
24	3.6			

IC508 LC75394							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	3.51	17	2.05	33	2.05	49	4.5
2	4.65	18	0	34	4.65	50	4.65
3	2.74	19	2.05	35	4.65	51	4.65
4	3.5	20	0	36	2.68	52	4.65
5	4.65	21	2.05	37	4.4	53	4.2
6	2.74	22	0	38	4.65	54	0
7	3.5	23	0	39	3.5	55	4.65
8	4.65	24	0	40	2.74	56	4.65
9	2.74	25	0	41	4.65	57	0.26
10	3.5	26	0	42	3.5	58	4.65
11	4.65	27	0	43	2.74	59	0
12	4.5	28	2.05	44	4.65	60	4.2
13	2.45	29	0	45	3.5	61	4.65
14	4.65	30	2.05	46	2.75	62	4.65
15	4.65	31	0	47	4.65	63	4.65
16	2.05	32	2.05	48	3.5	64	4.5

PIN	IC502 BA4558N	IC505 SAA6597T	IC509 LA4450
1	0	2.4	23.8
2	0	2.6	13.6
3	0	2.51	0
4	-12.07	2.37	0
5	0	5.03	13.8
6	0	0	23.9
7	0	2.29	26.9
8	13.04	2.55	1.22
9		0	0
10		0	25.7
11		0	0
12		5.03	2.22
13		2.29	0
14		2.63	1.22
15		2.51	
16		2.51	

MAIN BOARD - CIRCUIT DIAGRAM



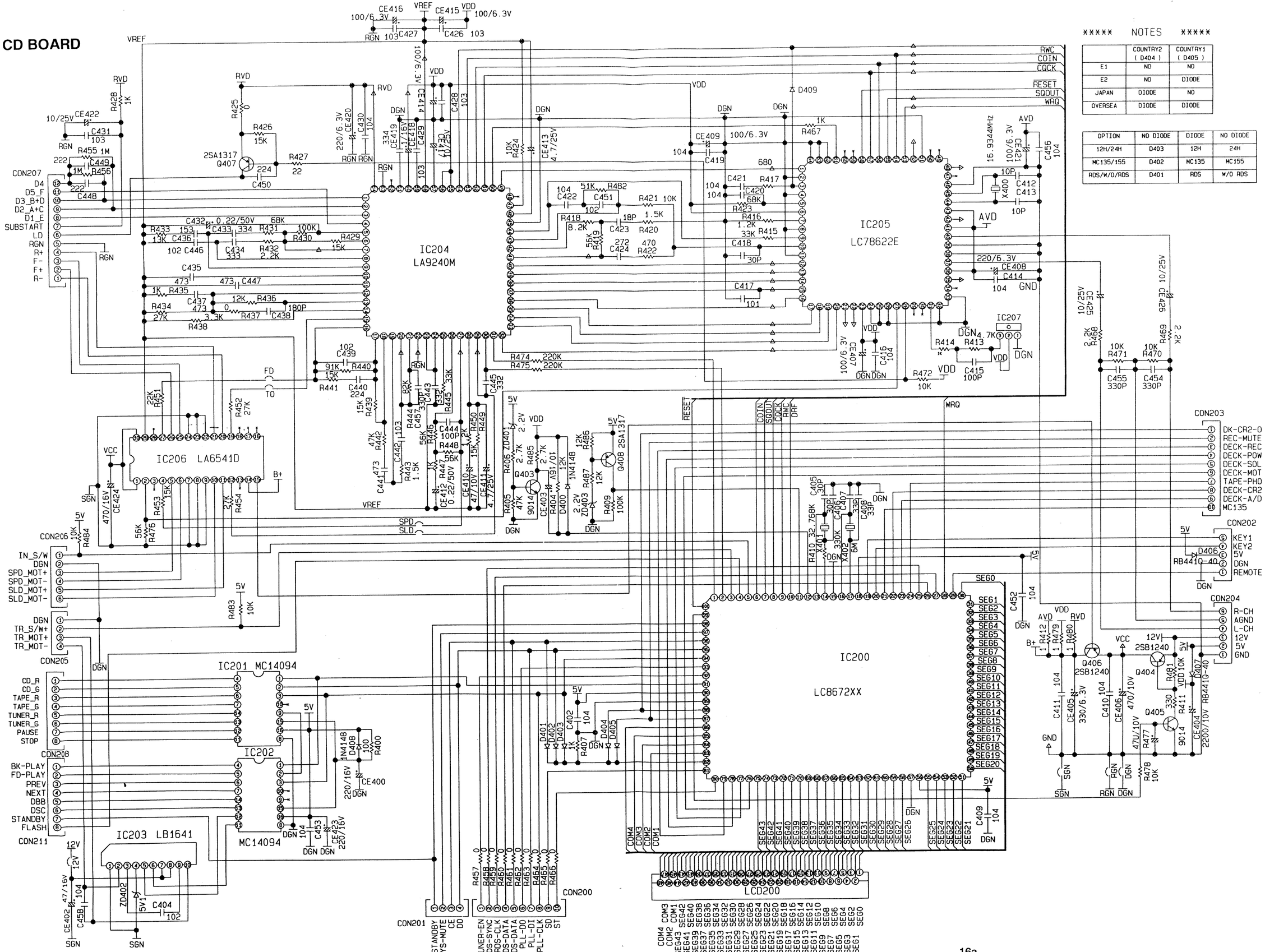


15a

15b

PCS 97 471

CD BOARD



***** NOTES *****

	COUNTRY2 (D404)	COUNTRY1 (D405)
E1	NO	NO
E2	NO	DIODE
JAPAN	DIODE	NO
OVERSEA	DIODE	DIODE

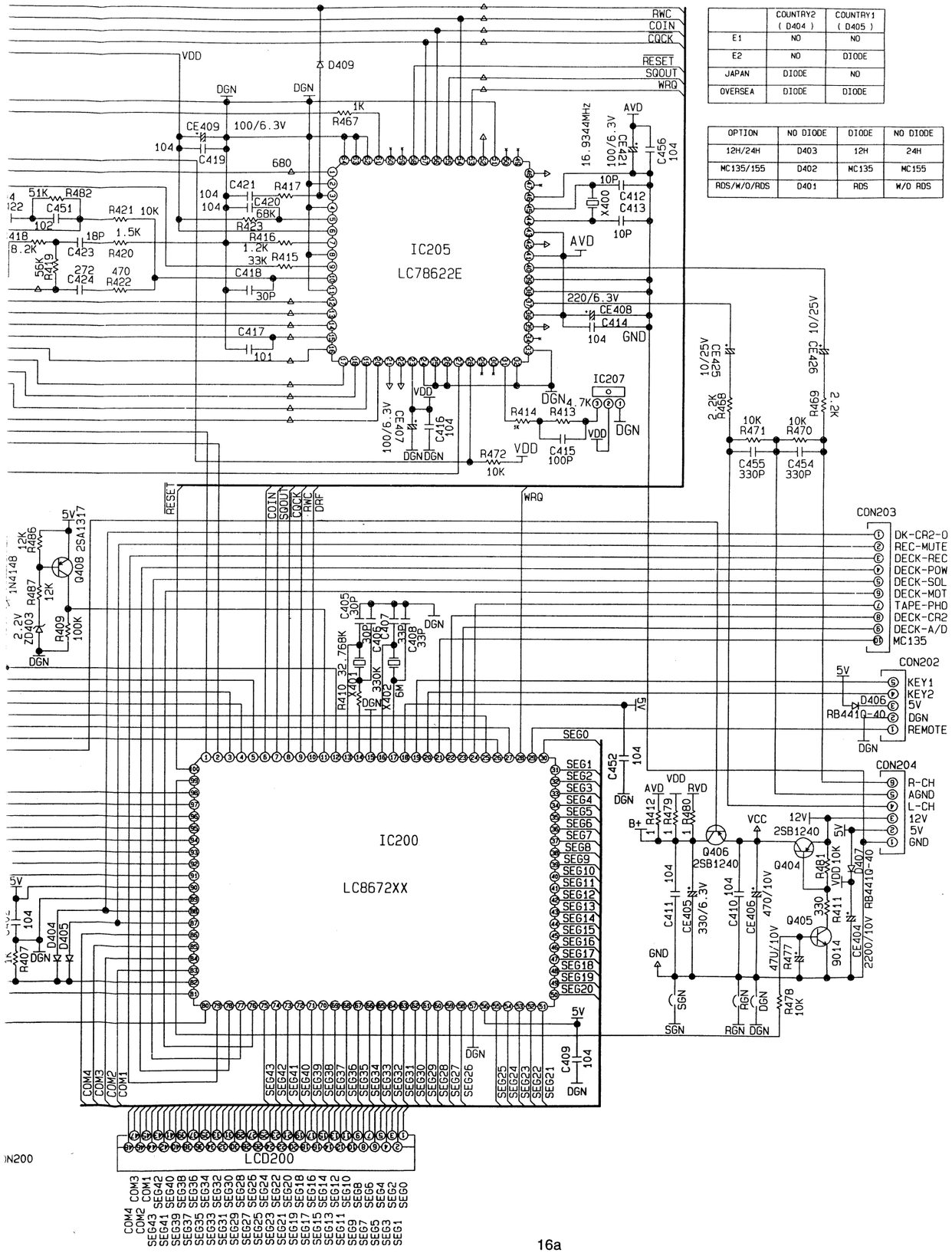
OPTION	NO DIODE	DIODE	NO DIODE
12H/24H	D403	12H	24H
MC135/155	D402	MC135	MC155
RDS/W/O/RDS	D401	RDS	W/O RDS

VOLTAGE C

PIN	VOLTS
1	0
2	0
3	0
4	4.62
5	4.92
6	0
7	0
8	4.62
9	0
10	0
11	4.9
12	4.6
13	0.2
14	2.43
15	0
16	1.09
17	2.38
18	4.62
19	4.32
20	4.32
21	0
22	4.87
23	4.87
24	4.87
25	2.2

PIN	VOLTS
1	2.46
2	2.46
3	2.49
4	2,49
5	2.28
6	2.48
7	2.49
8	2.36
9	2.36
10	2.28
11	2.47
12	2.39
13	2.48
14	2.48
15	2.48
16	2.5

PIN	VOLTS
1	0
2	0
3	0
4	0
5	0
6	1.55
7	4.87
8	0.07
9	0
10	2.44
11	2.5
12	0
13	0
14	4.85
15	0
16	0.03



***** NOTES *****		
	COUNTRY2 (D404)	COUNTRY1 (D405)
E1	NO	NO
E2	NO	DIODE
JAPAN	DIODE	NO
OVERSEA	DIODE	DIODE

OPTION	NO DIODE	DIODE	NO DIODE
12H/24H	D403	12H	24H
MC135/155	D402	MC135	MC155
RDS/W/O/RDS	D401	RDS	W/O RDS

VOLTAGE CHART

IC200 LC86P7248							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	0	26	2.5	51	2.2	76	0
2	0	27	2.48	52	2.2	77	0
3	0	28	0	53	2.2	78	0
4	4.62	29	4.62	54	2.2	79	0
5	4.92	30	2.2	55	2.2	80	4.94
6	0	31	2.2	56	4.62	81	0.45
7	0	32	2.2	57	0	82	0.45
8	4.62	33	2.2	58	2.27	83	2.25
9	0	34	2.2	59	2.22	84	2.25
10	0	35	2.2	60	2.27	85	2.25
11	4.9	36	2.2	61	2.25	86	2.27
12	4.6	37	2.2	62	2.22	87	4.45
13	0.2	38	2.2	63	2.2	88	0
14	2.43	39	2.2	64	2.23	89	0
15	0	40	2.2	65	2.2	90	4.62
16	1.09	41	2.2	66	2.2	91	0
17	2.38	42	2.2	67	2.2	92	0
18	4.62	43	2.2	68	2.2	93	4.94
19	4.32	44	2.2	69	2.2	94	0
20	4.32	45	2.2	70	2.2	95	0
21	0	46	2.2	71	2.2	96	0
22	4.87	47	2.2	72	2.2	97	4.62
23	4.87	48	2.2	73	2.2	98	4.62
24	4.87	49	2.2	74	2.28	99	4.58
25	2.2	50	2.2	75	2.2	100	4.62

PIN	IC201 MC14094	IC202 MC14094
1	0	0
2	0	4.97
3	0	0
4	1.23	4.97
5	4.97	3.6
6	4.97	3.6
7	1.46	0.07
8	0	0
9	4.97	0
10	4.97	0
11	3.6	4.1
12	3.6	4.1
13	1.48	4.97
14	4.97	4.97
15	/	/
16	4.97	4.97

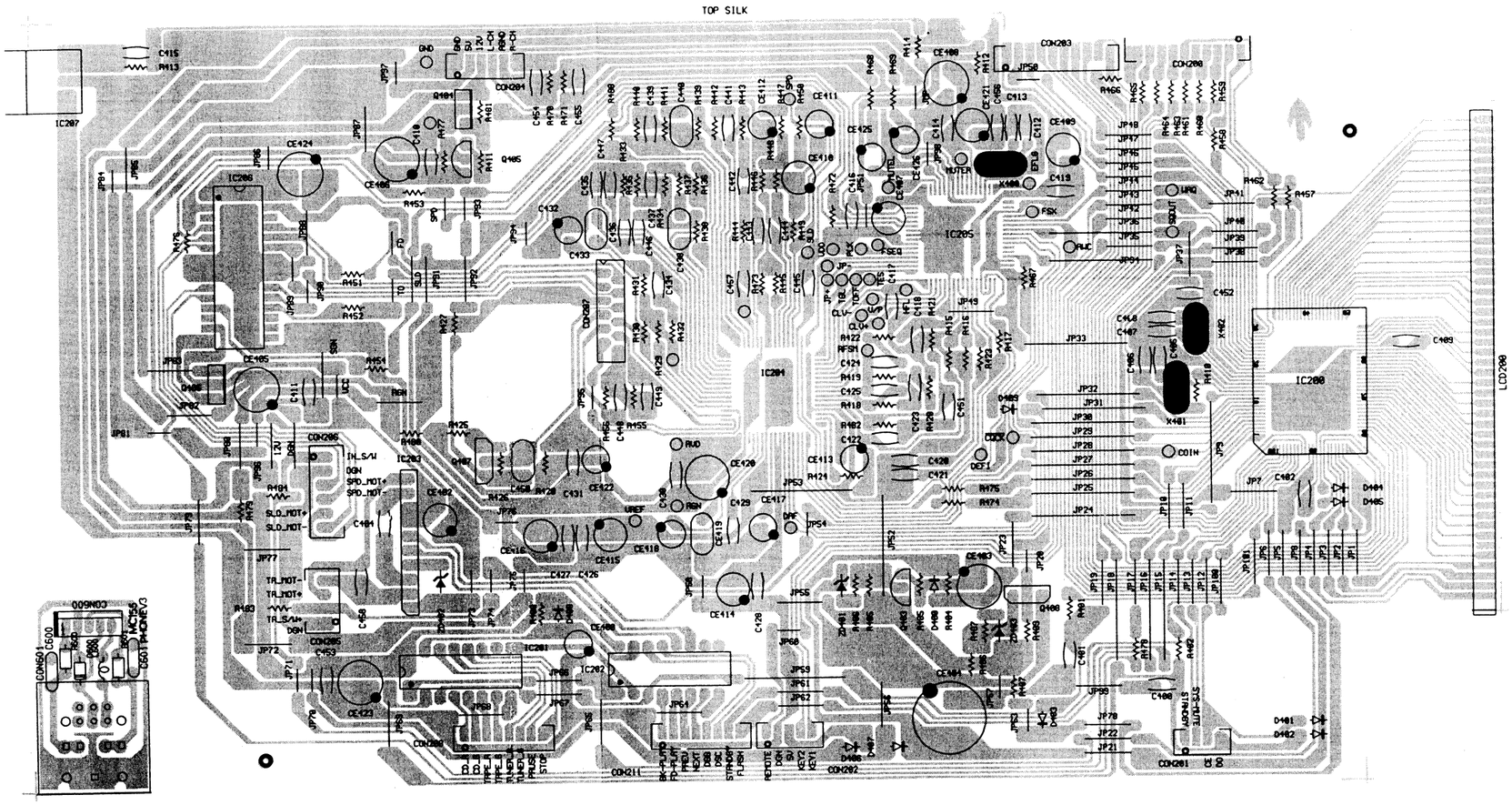
IC204 LA9240M							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	2.46	17	2.48	33	0	49	0
2	2.46	18	2.48	34	4.88	50	2.45
3	2.49	19	2.48	35	4.88	51	4.62
4	2,49	20	2.48	36	0.04	52	0
5	2.28	21	2.48	37	0	53	0
6	2.48	22	0	38	0	54	0
7	2.49	23	2.4	39	0	55	4.88
8	2.36	24	2.4	40	0	56	4.88
9	2.36	25	2.43	41	1.56	57	2.45
10	2.28	26	2.48	42	2.38	58	2.48
11	2.47	27	2.48	43	2.5	59	0.87
12	2.39	28	2.44	44	2.47	60	0.93
13	2.48	29	2.49	45	0	61	2.17
14	2.48	30	2.3	46	2.45	62	4.16
15	2.48	31	2.24	47	2.48	63	0
16	2.5	32	0	48	0	64	4.93

PIN	IC203 LB1641
1	0
2	0.54
3	0.73
4	0.22
5	4.08
6	4.1
7	7.8
8	7.8
9	0.73
10	0.54

IC205 LC78622E							
PIN	VOLTS	PIN	VOLTS	PIN	VOLTS	PIN	VOLTS
1	0	17	4.87	33	0	49	0
2	0	18	4.87	34	0	50	2.43
3	0	19	0	35	4.87	51	0
4	0	20	0	36	4.91	52	2.43
5	0	21	2.41	37	2.13	53	0
6	1.55	22	0	38	0	54	0
7	4.87	23	4.87	39	0	55	0
8	0.07	24	0	40	2.14	56	0
9	0	25	0	41	4.91	57	4.61
10	2.44	26	0	42	4.87	58	4.61
11	2.5	27	0	43	4.91	59	0
12	0	28	4.87	44	2.78	60	3.2
13	0	29	0	45	1.9	61	2.66
14	4.85	30	4.8	46	0	62	0
15	0	31	0	47	0.11	63	0
16	0.03	32	0	48	2.2	64	0

IC206 LA6541D			
PIN	VOLTS	PIN	VOLTS
1	7.77	16	4.9
2	0	17	4.72
3	2.45	18	2.45
4	2.48	19	2.48
5	3.14	20	3.19
6	3.14	21	3.19
7	0	22	0
8	0	23	0
9	0	24	0
10	3.14	25	3.12
11	3.14	26	3.12
12	2.48	27	2.48
13	2.45	28	2.45
14	4.93	29	2.48
15	7.14	30	7.77

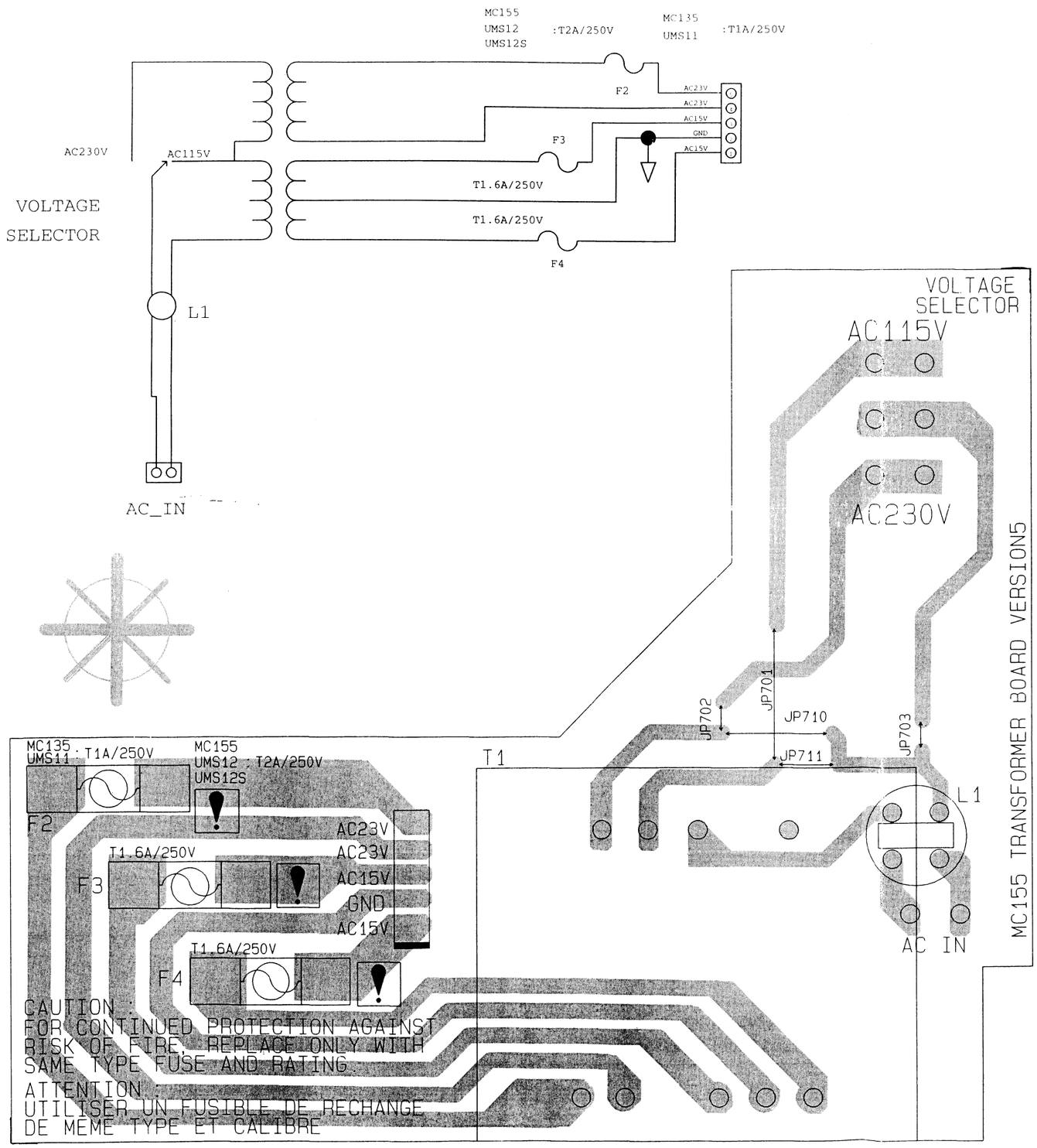
CD BOARD - LAYOUT DIAGRAM



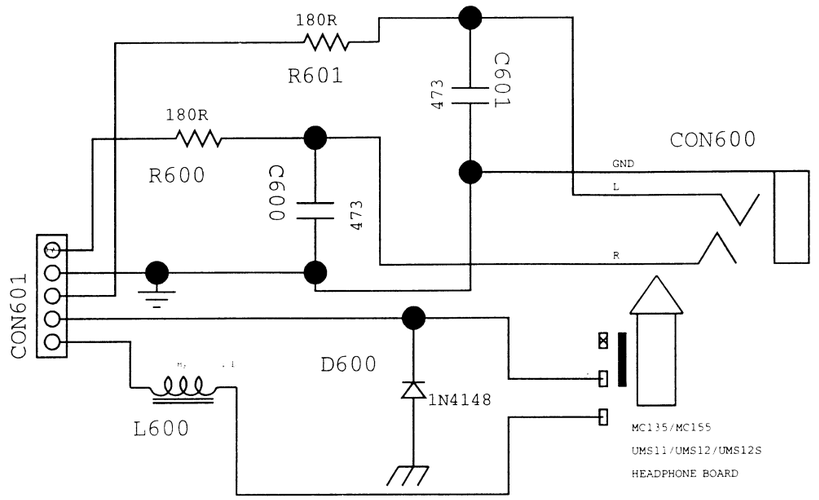
MEASUREMENT	INSTRUMENT	CONNECT TO	SHORT CIRCUIT [1]	VALUE
RF PLL VCO	Frequency counter	⊕ - PCK Gnd - D-GND	1. PDO to VREF	2.5 MHz ± 1 kHz
E/F BALANCE [2]	DC Voltmeter	⊕ TE and ⊖ VREF (via low pass filter)	1. RWC to D-GND 2. TOFF to VDD	0 ± 50mV
TRACKING OFFSET [2]	DC Voltmeter	⊕ TO and ⊖ VREF (via low pass filter)	1. RWC to D-GND 2. D-MUTE of LA6541 to D-GND	0 ± 150mV
FOCUS OFFSET	DC Voltmeter	⊕ FD and ⊖ VREF		0 ± 150mV

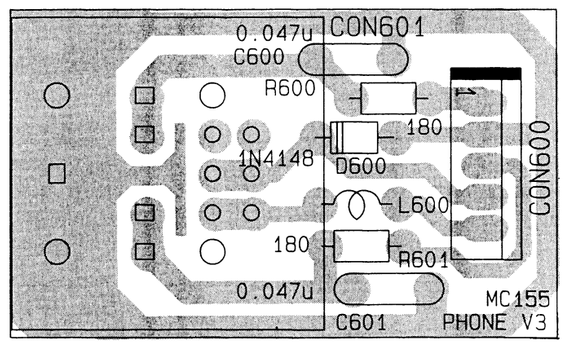
[1] Via a 10 ohm resistor. when the measurement is completed, disconnect all the short circuit bridge.
[2] Play track 1 of Philips Audio Signal Disc 1 (4822 397 30184).

TRANSFORMER BOARD



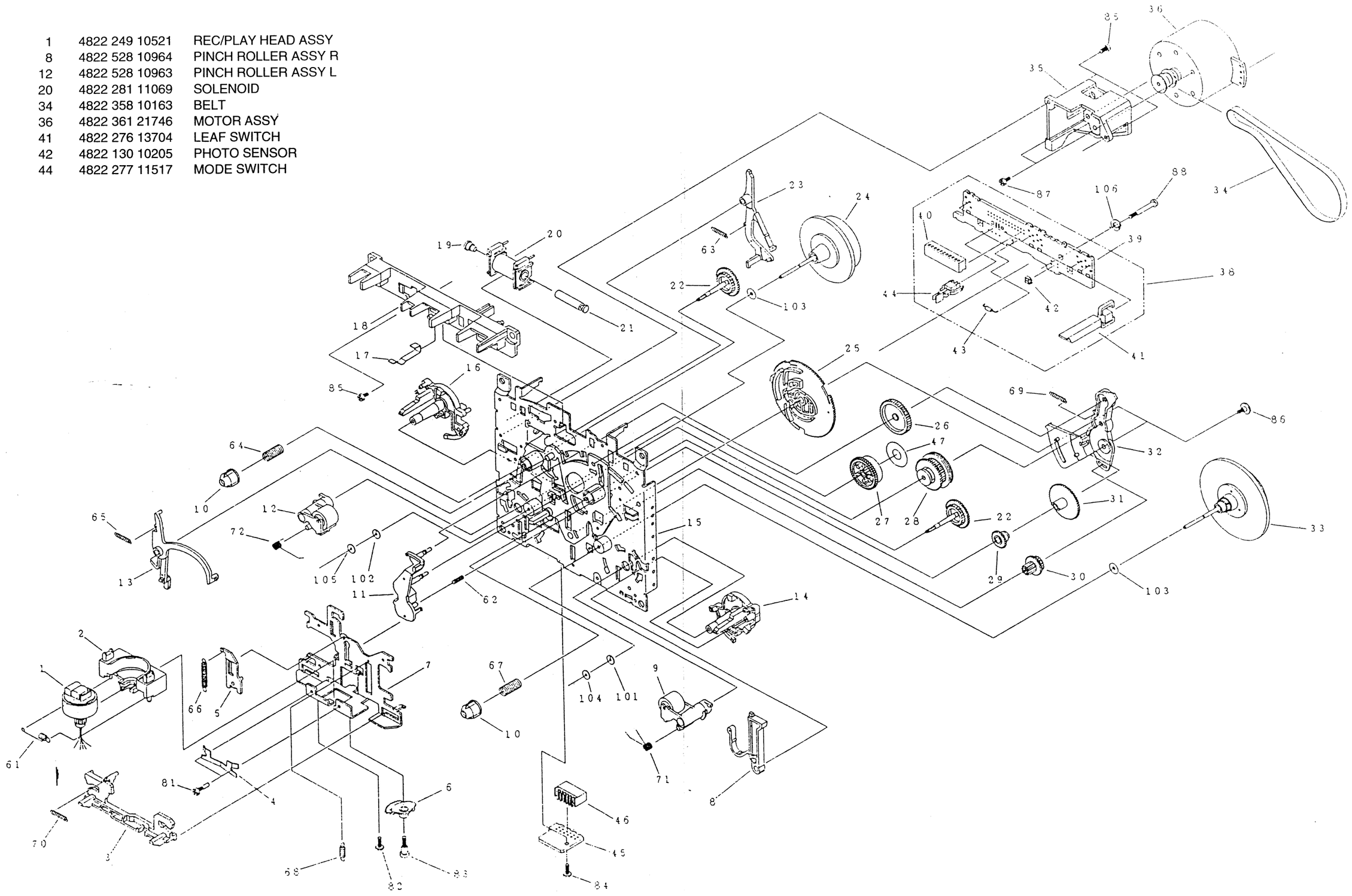
HEADPHONE JACK BOARD



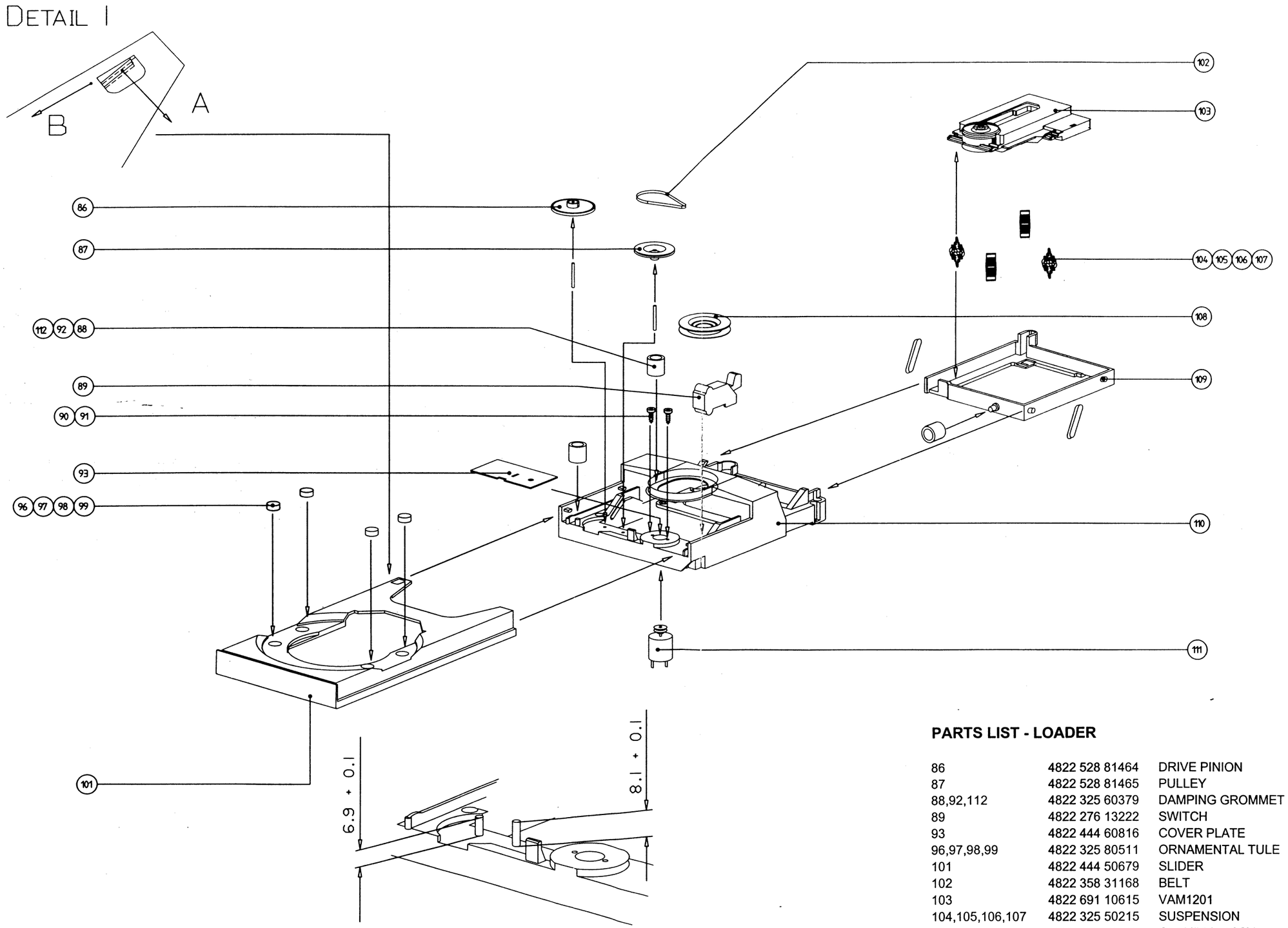


EXPLODED VIEW DIAGRAM - TAPE DECK

1	4822 249 10521	REC/PLAY HEAD ASSY
8	4822 528 10964	PINCH ROLLER ASSY R
12	4822 528 10963	PINCH ROLLER ASSY L
20	4822 281 11069	SOLENOID
34	4822 358 10163	BELT
36	4822 361 21746	MOTOR ASSY
41	4822 276 13704	LEAF SWITCH
42	4822 130 10205	PHOTO SENSOR
44	4822 277 11517	MODE SWITCH



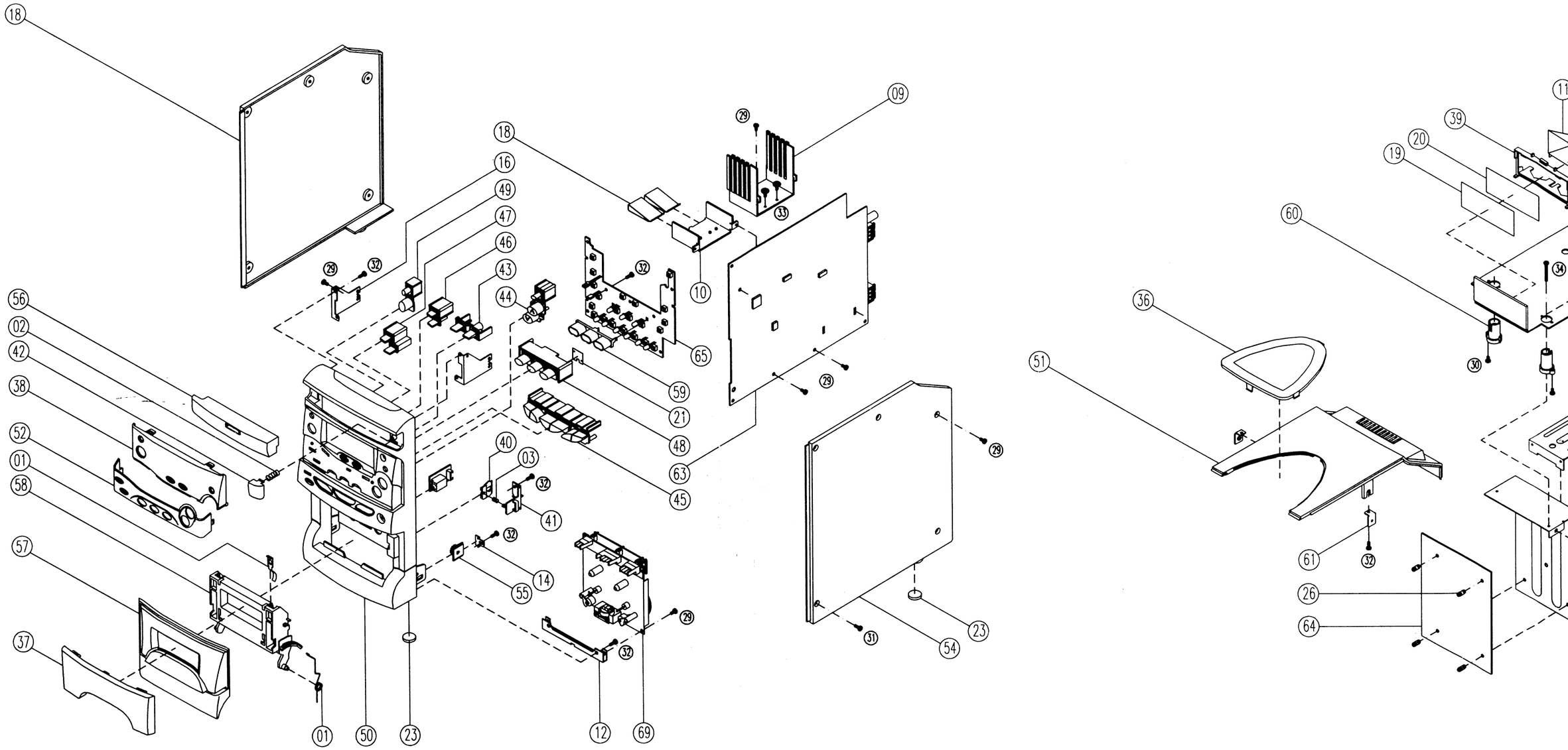
EXPLODED VIEW DIAGRAM - CD LAODER



PARTS LIST - LOADER

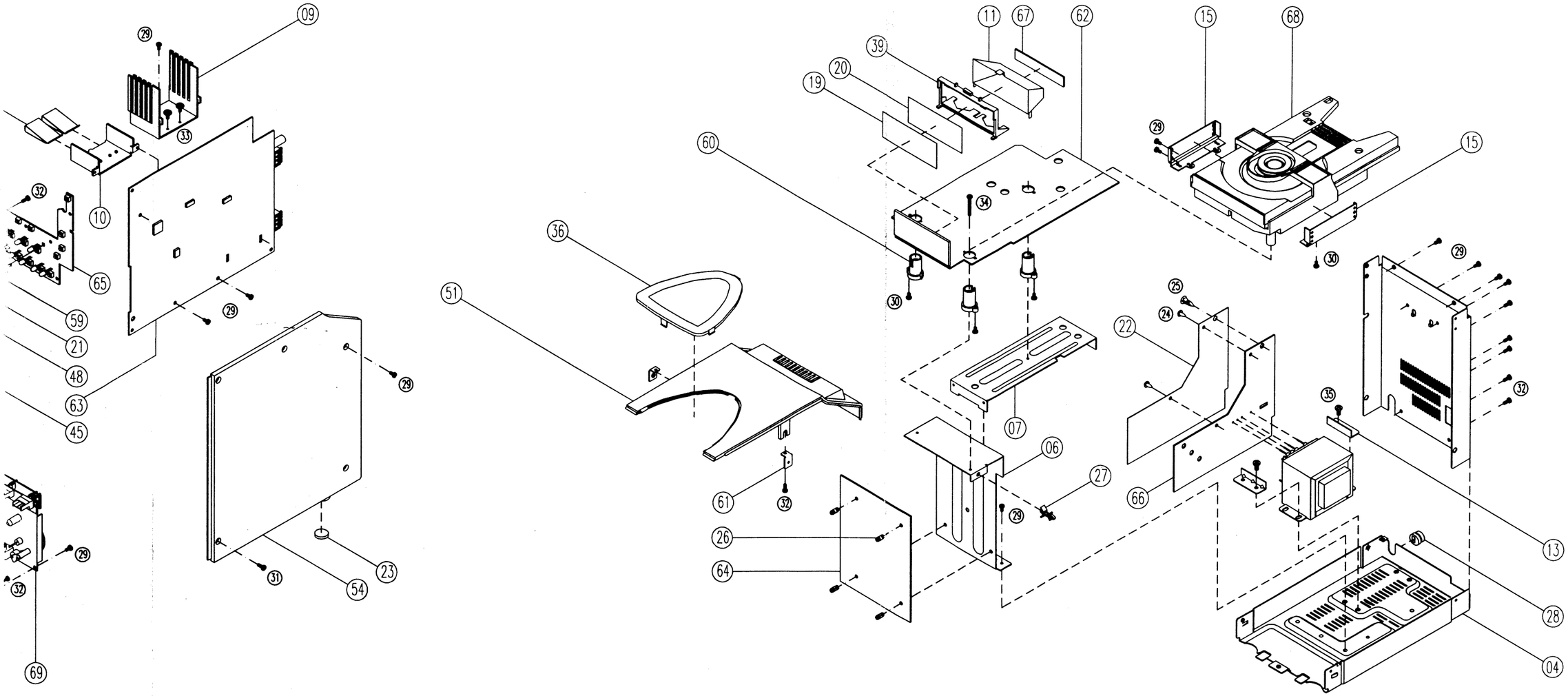
86	4822 528 81464	DRIVE PINION
87	4822 528 81465	PULLEY
88,92,112	4822 325 60379	DAMPING GROMMET
89	4822 276 13222	SWITCH
93	4822 444 60816	COVER PLATE
96,97,98,99	4822 325 80511	ORNAMENTAL TULE
101	4822 444 50679	SLIDER
102	4822 358 31168	BELT
103	4822 691 10615	VAM1201
104,105,106,107	4822 325 50215	SUSPENSION
108	4822 402 61412	CLAMPER ASSY
109	4822 464 50895	SUBCHASSIS
111	4822 361 21492	MOTOR

EXPLODED VIEW DIAGRAM - MAIN ASSEMBLY



MECHANICAL PARTSLIST

01	4822 492 11455	CASS. TORSION SPRING	40	4822 402 10795	LATCHING CAM	50	4822 459 04995	FR
02	4822 492 11456	COMPRESS SPRING-CD OPEN	41	4822 256 10392	LATCHING CAM HOLDER	51	4822 442 01393	CA
03	4822 492 11457	COMPRESS SPRING-EJECT CAM	42	4822 410 11856	CD OPEN BUTTON	52	4822 426 10655	CO
08	4822 492 11458	CASSETTE TAPE SPRING	43	4822 410 11323	CLOCK/TIMER BUTTON	55	4822 529 10322	DA
23	4822 462 10964	RUBBER FOOT 16X3	44	4822 410 11857	RDS/VOLUME BUTTON	56	4822 443 10973	CL
28	4822 325 60282	STRAIN RELIEF SR-4N-4	45	4822 410 11858	PLAY/F.F/REWIND BUTTON	57	4822 443 10977	CA
36	4822 450 10529	CD WINDOW	46	4822 410 11326	RECORD/PROGRAM BUTTON	58	4822 443 10777	DO
37	4822 450 10533	CASSETTE WINDOW	47	4822 410 11327	DBB/DSC BUTTON	60	4822 256 10393	CL
38	4822 381 11983	DISPLAY LENS	48	4822 410 11328	SOURCE BUTTON	69	4822 691 10623	MI
38	4822 381 11985	DISPLAY LENS (FOR /21 ONLY)	49	4822 410 11329	POWER/DEMO BUTTON			



MECHANICAL PARTSLIST

4822 492 11455	CASS. TORSION SPRING
4822 492 11456	COMPRESS SPRING-CD OPEN
4822 492 11457	COMPRESS SPRING-EJECT CAM
4822 492 11458	CASSETTE TAPE SPRING
4822 462 10964	RUBBER FOOT 16X3
4822 325 60282	STRAIN RELIEF SR-4N-4
4822 450 10529	CD WINDOW
4822 450 10533	CASSETTE WINDOW
4822 381 11983	DISPLAY LENS
4822 381 11985	DISPLAY LENS (FOR /21 ONLY)
40 4822 402 10795	LATCHING CAM
41 4822 256 10392	LATCHING CAM HOLDER
42 4822 410 11856	CD OPEN BUTTON
43 4822 410 11323	CLOCK/TIMER BUTTON
44 4822 410 11857	RDS/VOLUME BUTTON
45 4822 410 11858	PLAY/F.F/REWIND BUTTON
46 4822 410 11326	RECORD/PROGRAM BUTTON
47 4822 410 11327	DBB/DSC BUTTON
48 4822 410 11328	SOURCE BUTTON
49 4822 410 11329	POWER/DEMO BUTTON
50 4822 459 04995	FRONT CABINET
51 4822 442 01393	CABINET TOP
52 4822 426 10655	CONTROL PANEL
55 4822 529 10322	DAMPER ASSY
56 4822 443 10973	CD DOOR
57 4822 443 10977	CASSETTE DOOR
58 4822 443 10777	DOOR TECHNICAL
60 4822 256 10393	CD MECHANISM HOLDER
69 4822 691 10623	MECHANISM CRH44-17

ACCESSORIES

4822 459 11086	PHILIPS NAME PLATE
4822 445 10767	LOUDSP. BOX SET
4822 303 14066	FM AERIAL
4822 219 10341	REMOTE CONTROL 'RC078
4822 303 14064	AM LOOP ANT.
4822 736 16177	INSTRUCTION BOOK
4822 736 16177	INSTRUCTION BOOK /21

ELECTRICAL PARTSLIST

MAIN BOARD ASSEMBLY

BPF500	4822 153 70066	GFMB3
CF500	4822 242 80258	SFE10,7MS2-A-TF21
CF502	4822 242 80258	SFE10,7MS2-A-TF21
CF501	4822 242 10789	AHCFMZ-450BL
IFT500	4822 157 11373	IFT YEL
IFT502	4822 157 11363	OSC COIL RED
L500	4822 157 11369	AM ANT. COIL
L502	4822 157 11371	47UH
L503	4822 157 11371	47UH
L504	4822 157 11362	CB6-300
L505	4822 157 11362	CB6-300
LPF500	4822 157 11374	MPX FILTER
LPF501	4822 157 11374	MPX FILTER
X500	4822 242 81248	CSB456F15
X503	4822 242 10791	CRYSTAL 4.332MHZ
X504	4822 242 10792	CRYSTAL 7.2MHZ
X505	4822 242 10793	CDA10.7MG43-A

D501	4822 130 30621	1N4148
D502	4822 130 30621	1N4148
D503	5322 130 30684	1N4002RL
D504	5322 130 30684	1N4002RL
D505	5322 130 30684	1N4002RL
D506	5322 130 30684	1N4002RL
D507	5322 130 30684	1N4002RL
D508	5322 130 30684	1N4002RL
D509	5322 130 30684	1N4002RL
D510	5322 130 30684	1N4002RL
D511	4822 130 30621	1N4148
D700	4822 130 30621	1N4148
D701	4822 130 30621	1N4148
D702	4822 130 30621	1N4148
D703	4822 130 30621	1N4148
D704	4822 130 30621	1N4148
D705	4822 130 30621	1N4148
D706	4822 130 30621	1N4148
VD501	4822 130 82772	SVC321SPA-B-1
VD502	4822 130 82772	SVC321SPA-B-1
Z502	4822 130 10971	UZ9.1W (9,1V - 0,5W)
ZN500	4822 130 10972	UZ12W (12V - 0,5W)

Q502	4822 130 10696	2SC3330U
Q507	4822 130 61931	2SC2999D/E
Q508	4822 130 10696	2SC3330U
Q509	4822 130 10985	DTC343TS
Q510	4822 130 10985	DTC343TS
Q511	4822 130 10696	2SC3330U
Q512	4822 130 10974	2SB1240Q
Q513	4822 130 10974	2SB1240Q
Q514	4822 130 10697	2SA1317U
Q515	4822 130 60644	9014C
Q516	4822 130 10975	9018G
Q518	4822 130 60644	9014C
Q519	4822 130 10696	2SC3330U
Q521	4822 130 63585	2SD2012
Q522	4822 130 60588	DTC114ES
Q530	4822 130 10697	2SA1317U
Q531	4822 130 42306	2SD882Q
IC500	4822 209 15777	LA1832M
IC501	4822 209 16265	BA4558N
IC502	4822 209 73954	NJM7912A
IC503	4822 209 83824	NJM7805FA
IC504	4822 209 15778	LC72131M
IC505	4822 209 31981	SAA6579T
IC506	4822 210 10782	ENV17297G1
IC508	4822 209 15784	LC75394NE
IC509	4822 209 15785	LA4450
IC511	4822 209 32676	NJM7808FA

MISCELLANEOUS

VC500	4822 125 11099	TRIMMER 10PF
CON500	4822 265 11047	ANTENNA SOCKET
SPK500	4822 265 11048	SPEAKER SOCKET

ELECTRICAL PARTSLIST

CD BOARD ASSEMBLY

D400	4822 130 30621	1N4148
D401	4822 130 30621	1N4148
D406	4822 130 10869	RB441Q
D407	4822 130 10869	RB441Q
D408	4822 130 30621	1N4148
D409	4822 130 30621	1N4148
D410	4822 130 30621	1N4148
D600	4822 130 30621	1N4148
ZD401	4822 130 10621	HZS2C-1/MTZJ2.2B
ZD402	4822 130 10967	5.1V 0.5W
ZD403	4822 130 10621	HZS2C-1/MTZJ2.2B

Q403	4822 130 60644	9014C
Q404	4822 130 10974	2SB1240Q
Q405	4822 130 60644	9014C
Q406	4822 130 10974	2SB1240Q
Q407	4822 130 10697	2SA1317U
Q408	4822 130 10697	2SA1317U
IC200	4822 209 15787	LC867248
IC201	5322 209 10421	HEF4094BP
IC202	5322 209 10421	HEF4094BP
IC203	4822 209 30193	LB1641
IC204	4822 209 15227	LA9240M
IC205	4822 209 15773	LC78622E
IC206	4822 209 15786	LA6541D

MISCELLANEOUS

LCD200	4822 135 00138	HLC7112-012410
L401	4822 157 11371	47UH
X400	4822 242 10794	16.9344MHZ 49U
X401	4822 242 10795	DMC-AT32.768KHZ
X402	4822 242 71508	CSA6,00MG

PREAMP BOARD ASSEMBLY

D202	4822 130 10869	RB441Q
D200	4822 130 30621	1N4148
ZD201	4822 130 31554	BZX79-B4V3

Q200	4822 130 61188	DTC144TS
Q204	4822 130 10696	2SC3330U
Q205	4822 130 42306	2SD882Q
Q206	4822 130 60588	DTC114ES
Q207	4822 130 10696	2SC3330U
Q209	4822 130 10974	2SB1240Q
Q211	4822 130 61188	DTC144TS
Q212	4822 130 10985	DTC343TS
Q213	4822 130 10985	DTC343TS
Q214	4822 130 10974	2SB1240Q
Q215	4822 130 60644	9014C
Q216	4822 130 42306	2SD882Q
Q217	4822 130 60644	9014C
Q218	4822 130 60588	DTC114ES
Q219	4822 130 60588	DTC114ES
U200	4822 209 32082	TA8142AP
U201	4822 209 61667	UPC1330HA
IC200	4822 209 16265	BA4558N

L200	4822 157 11371	47UH
L201	4822 157 11371	47UH
L202	4822 157 11371	47UH
L203	4822 157 11364	36MH
L204	4822 157 11364	36MH
U202	4822 157 11365	BIAS OSC COIL

VR206	4822 101 11835	SEMI-FIXED VR 2K.

ELECTRICA

PANEL BOAR

LED100	4
LED101	4
LED102	4
LED109	4
LED110	4
LED111	4
Q100	4
Q101	4
Q102	4
Q103	4
Q104	4
Q105	4
Q106	4

MISCELLAN

IR100	4
JP107	4

ELECTRICAL PARTSLIST

CD BOARD ASSEMBLY

D400	4822 130 30621	1N4148
D401	4822 130 30621	1N4148
D406	4822 130 10869	RB441Q
D407	4822 130 10869	RB441Q
D408	4822 130 30621	1N4148
D409	4822 130 30621	1N4148
D410	4822 130 30621	1N4148
D600	4822 130 30621	1N4148
ZD401	4822 130 10621	HZS2C-1/MTZJ2.2B
ZD402	4822 130 10967	5.1V 0.5W
ZD403	4822 130 10621	HZS2C-1/MTZJ2.2B

Q403	4822 130 60644	9014C
Q404	4822 130 10974	2SB1240Q
Q405	4822 130 60644	9014C
Q406	4822 130 10974	2SB1240Q
Q407	4822 130 10697	2SA1317U
Q408	4822 130 10697	2SA1317U
IC200	4822 209 15787	LC867248
IC201	5322 209 10421	HEF4094BP
IC202	5322 209 10421	HEF4094BP
IC203	4822 209 30193	LB1641
IC204	4822 209 15227	LA9240M
IC205	4822 209 15773	LC78622E
IC206	4822 209 15786	LA6541D

MISCELLANEOUS

LCD200	4822 135 00138	HLC7112-012410
L401	4822 157 11371	47UH
X400	4822 242 10794	16.9344MHZ 49U
X401	4822 242 10795	DMC-AT32.768KHZ
X402	4822 242 71508	CSA6,00MG

PREAMP BOARD ASSEMBLY

D202	4822 130 10869	RB441Q
D200	4822 130 30621	1N4148
ZD201	4822 130 31554	BZX79-B4V3

Q200	4822 130 61188	DTC144TS
Q204	4822 130 10696	2SC3330U
Q205	4822 130 42306	2SD882Q
Q206	4822 130 60588	DTC114ES
Q207	4822 130 10696	2SC3330U
Q209	4822 130 10974	2SB1240Q
Q211	4822 130 61188	DTC144TS
Q212	4822 130 10985	DTC343TS
Q213	4822 130 10985	DTC343TS
Q214	4822 130 10974	2SB1240Q
Q215	4822 130 60644	9014C
Q216	4822 130 42306	2SD882Q
Q217	4822 130 60644	9014C
Q218	4822 130 60588	DTC114ES
Q219	4822 130 60588	DTC114ES
U200	4822 209 32082	TA8142AP
U201	4822 209 61667	UPC1330HA
IC200	4822 209 16265	BA4558N

L200	4822 157 11371	47UH
L201	4822 157 11371	47UH
L202	4822 157 11371	47UH
L203	4822 157 11364	36MH
L204	4822 157 11364	36MH
U202	4822 157 11365	BIAS OSC COIL

VR206	4822 101 11835	SEMI-FIXED VR 2K.

ELECTRICAL PARTSLIST

PANEL BOARD ASSEMBLY

LED100	4822 130 10976	L-59EGW RED/GRN.
LED101	4822 130 10976	L-59EGW RED/GRN.
LED102	4822 130 10976	L-59EGW RED/GRN.
LED109	4822 130 10978	L-113SRC RED
LED110	4822 130 10979	L-1034ID RED
LED111	4822 130 10981	L-113SGC GREEN

Q100	4822 130 10982	2SA1037AK-R
Q101	4822 130 10982	2SA1037AK-R
Q102	4822 130 10982	2SA1037AK-R
Q103	4822 130 10982	2SA1037AK-R
Q104	4822 130 10982	2SA1037AK-R
Q105	4822 130 10982	2SA1037AK-R
Q106	4822 130 10982	2SA1037AK-R

MISCELLANEOUS

	4822 276 13893	TACT SWITCH
IR100	4822 130 10165	GP1U28XP
JP107	4822 130 10869	RB441Q

OTHERS

HEADPHONE BOARD

D600	4822 130 30621	1N4148
CON601	4822 265 11049	HEADPHONE JACK

POWER BOARD

L301	4822 134 10099	LAMP 5,5V 0,1A
L302	4822 134 10099	LAMP 5,5V 0,1A
L303	4822 134 10099	LAMP 5,5V 0,1A
L304	4822 134 10099	LAMP 5,5V 0,1A
L1	4822 157 11372	TR12.5X7.5X5
F3	4822 252 11252	FUSE 1.6A 250V
F4	4822 252 11252	FUSE 1.6A 250V
F2	4822 070 32002	FUSE 2A 250V
	4822 146 10842	MAINS TRANSF. 230V
	4822 146 10864	MAINS TRANSF. 240V
	4822 273 10342	VOLTAGE SWITCH